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THE AMERICAN MERCHANT MARINE

AT THE

NORMANDY LANDINGS

by

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Chapter I

THE FORTRESS

Shakespeare describes England as "this seat of Mars..... this fortress built by Nature for itself....." Maybe it was true in King Richard's day, but in World War II England was a fortress built by the merchant marine.

For more than 2 years convoys zigzagged back and forth across the Atlantic piling up supplies for the invasion. An average of seven or eight convoys comprising from 50 to 60 cargo ships crossed in each direction every month.

The course they followed was a battle ground as well as a supply route. A crucial struggle with German U-boats was a long and bitter prelude to the landings in Normandy. Before our troops could set foot in France, the British base had to be built up. Before our troops could extend their initial beachhead, the accumulated power of the British base had to flow uninterruptedly to France. Vital instruments of both these objectives were cargo ships and their civilian crews.

Every vessel we could find was pressed into war service: ships from the coastal trades, the Great Lakes, and barnacled veterans from the World War I laid-up fleet. Multiplying these were the new bottoms from American shipyards. In time, 75 percent of the hundreds of WSA vessels arriving in United Kingdom ports each month were war-built Liberty ships.

For every vessel built a crew had to be on hand. The American merchant marine labor force numbered some 70,000 men before Pearl Harbor. In a single month, December 1943, 219 vessels were delivered into service representing a manning requirement of approximately 10,000 officers and men. Eventually the number of America's merchant seamen grew to almost four times its prewar strength.

Former merchant seamen who had taken shore jobs were induced to go back to sea; and by the time Normandy was invaded 36,000 "old hands" were helping to man our cargo fleet. The WSA launched an extensive training program, and by the beginning of 1944 approximately 67,500 officers and unlicensed seamen had been graduated and assigned to merchant ships. The combined efforts of the WSA's recruiting and training agencies raised the maritime labor force to 248,000 men, its highest figure in the nation's history.

The first or "build-up" phase of the Normandy invasion began long before the American merchant marine achieved its full wartime strength either in ships or men. It was a battle begun in desperation. Hundreds of ships and their cargoes plunged to the bottom. When we entered the war we were able to muster less than 12,000,000 deadweight tons of shipping. Six months later war losses had exceeded new construction by approximately half a million deadweight tons. Even the tankers hugging our east coast in the early months of the war were not safe from Hitler's wolf packs.

Nevertheless, the Atlantic had to be crossed and a bridge of ships maintained between the American arsenal and the British base. The build-up of Britain was given the code name BOLERO. Dictionaries define the word as a dance characterized by "sharp turns." After a study of its protracted and erratic course, it can not be said the build-up was inappropriately named. The reference is not solely to Germany's submarine warfare. The war visited upon BOLERO a series of impediments and lulls which becalmed or shook it with the capriciousness and violence of the elements at sea. Many of these hazards and problems were kinks inherent in the development of a vast and complicated shipping enterprise. The quasi-official interest of Associate Justice Felix Frankfurter in the movement of military cargoes to Britain early in the war, evoked this reply from Mr. Lewis W. Douglas, Deputy Administrator of the WSA: "With the haste that a cumbersome machine and various and, appropriately enough, independent agencies permit, every one here I think is trying to better the operations."

First of all, BOLERO was only one of many insatiable claimants upon the WSA's sometimes too slender shipping resources. But the shipping shortage was worse in appearance than effect. Army cargoes frequently were in shorter supply than the ships to carry them, and in August 1942, Mr. Douglas was able to advise Mr. Robert R. Nathan, Chairman of the War Production Board's Planning Committee, that "there is an abundance of shipping space to move tanks, artillery, ammunition and all other strategic military equipment (except vehicles) in amounts greater than the schedules of production."

For a long while, these shortages of Army cargoes were a compelling argument in favor of sending supplies where there was a shooting war rather than piling them up in a British warehouse for a still undetermined invasion. A large amount of supplies also was

needed in the United States for training purposes. BOLERO, therefore, had a low priority for most of its pre-invasion existence. On August 14, 1942, when plans for the invasion of North Africa (code name TORCH) had matured, the Combined Chiefs of Staff gave TORCH "precedence over other shipping in the Atlantic while the operation is being mounted." BOLERO, on the other hand, was near the bottom of the list, having a priority not only lower than TORCH, but almost every other current shipping program including relief of Iceland. Not until December 17, 1943, when the Normandy invasion was less than 6 months away, were the Army Service Forces able to obtain approval of top priority for BOLERO shipments. This led to a heavy, concerted movement of military cargoes in a final drive to build up adequate invasion supplies. Indeed, shipments had fallen so far behind that the Ocean Traffic Branch in the Office of the Chief of Transportation, Army Service Forces, had fears that tactical plans for the invasion might have to be delayed. General Eisenhower's postponement of D-day from May 1 (as originally planned) to the first week in June allowed some extra time, but the build-up struck another thorn. The onrush of supply ships became too much for Britain's port capacity. The breaking point came early in May when the Director of Sea Transport, British Ministry of War Transport, stated that the "full movement" was "entirely beyond the port and rail capacity of the country."

While this plenitude of ships would have been welcomed in the lean days of 1942, yet by their very numbers they interposed problems undreamed of 2 years before: problems of convoy formation, berthing, unloading, and many others arose in the congested, overtaxed, fog-shrouded harbors of Britain. A critical manpower situation developed. British civilian dock workers became too few and too aged to discharge speedily all the ships, and twenty-five U.S. Army port battalions were thrown into the task. Other problems were: an excess of supply ships over troop transports which frustrated attempts to send personnel and their equipment overseas together in orderly

fashion; ballasting of vessels returning light to the United States; repairs to vessels damaged by the enemy, rough seas or collisions; and finally, the limit to the capacity of British railways to clear the ports of the flood of supplies pouring into Britain. A serious bottleneck occurred in the vital Bristol Channel area. For weeks docksides were piled high with thousands of tons of military supplies, including heavy, bulky engineer equipment too large to pass through British railway tunnels. Special railway cars called "warwells" had to be built to move this equipment.

But gradually, there was built up in the British Isles a base powerful enough to support a cross-channel assault. England, for more than 2 years the objective, was now the springboard. The supplies and troops so long and arduously built up, had now to be reloaded and transported to France.

It is only about 100 miles from the southern coast of England to the landing beaches. In point of distance the run across the Channel was anti-climactic, a mere overnight jaunt when most war voyages took weeks and even months. Actually it was the culmination of the millions of convoy-miles traveled by the merchant marine since the build-up began.

The planners of the invasion in a way acknowledged this. They had never referred to the target as Europe, France, or Normandy. For more than 2 years they had called it the "far shore." For more than 2 years the Channel had been wider than the ocean. Convoys had crossed the Atlantic as far as Britain time and time again, but only now, in the early hours of June 4, 1944, could they set a course for the coast of France.

D-day was set for the following morning, but unfavorable weather intervened. The planners were no longer thinking in terms of oceans or of channels, but of those last

thousand yards when landing craft would be surging towards the beach. A stiff breeze that was blowing showed no signs of abatement. The seas were too rough for a landing. At 4:15 A.M., June 4, General Eisenhower abandoned plans to invade France on June 5. Radio messages were sent, and destroyers sped out to intercept the vanguard of the invasion fleet. Some of the leading vessels had been steaming towards the objective for 4 hours.

Whereas the main assault force composed of troop transports, LST's and Navy combatant ships was mounted on Britain's southern coast, the supply ships had been awaiting D-day in harbors on the west coast and in anchorages as far north as Scotland. Three main anchorages were at O'Ban, Loch Long and the Bristol Channel where WSA cargo vessels, pre-stowed with Army supplies, had begun to assemble a full month before the invasion.

Because they had a greater distance to travel, some of the cargo ships had been underway 15 hours when the invasion was postponed. For the next 12 hours the office of the WSA's General Operation Manager in London was in a state of "chaos," intercepting a host of vessels strung out between Scotland and Wales. Few, if any, returned to their anchorages but circled in the Irish Sea and St. George's Channel, waiting for the final order to strike Normandy.

The word came shortly before midnight on June 4. D-day was to be June 6. Weather and sea conditions were far from ideal but the Supreme Commander could risk no further delay. The 4,000 vessels of the invasion armada emerged from harbors, firths, and estuaries, formed their convoys, and ponderously got underway again.

The English Channel became a black mass of ships. A merchant sea captain whose vessel, the CYRUS H. MCCORMICK, took part in the early landings wrote: "Every ship in the world seems to be there ... there can be no doubt that the English Channel today is the busiest thoroughfare in the world.... and often there does not seem to be room enough to squeeze another vessel through."

Overhead roared an umbrella of Allied planes but the Luftwaffe failed to put in an appearance in the strength and size expected. The master of the CYRUS H. MCCORMICK wrote further: "Now and then there are planes making a fuss, but since they do not hit anything, we figure an inch is as good as a mile. Some of the bombs are duds and don't even explode. Some day we shall probably drop our anchor on one of them and lose the anchor."

Mine sweepers had cleared and marked ten lanes through the minefields. The assault force steamed through and anchored in the transport area seven to ten miles offshore. D-day casualties were fewer than had been feared; a number of United States and British naval vessels were sunk but WSA cargo ships for the time being escaped.

But the weather was still unfriendly. The waves where troops and assault equipment transferred from the big ships to landing craft, and the breakers on the beach were near the limit of feasibility for such operations.

One of the first reports on the landings described conditions on Omaha Beach as "operational with difficulty." This phrase would be repeated many times before the beachhead was established and supplies began to flow in volume from cargo ships to the infantrymen who had begun the re-conquest of a continent.

Chapter II

INVASION

The unloading of the cargo ships that stood off Omaha beach on D-day was scheduled to begin between four and twelve hours after the first wave hit the beach. It did not firmly get underway until D plus 2 and by then the military situation was imperiled by a shortage of supplies at the front while a mounting swarm of supply ships lay offshore. A dangerous backlog of unloaded ships was piling up. The Germans were doing their utmost to prove the military axiom that an amphibious invasion can best be stopped at the "water's edge."

The WSA cargo ships taking part in the operation were subject to a double command. The Navy was responsible for their safe conduct across the Channel; the Army was responsible for unloading them at the beaches. Navy beach parties, headed by a Naval Officer In Charge (NOIC), were to identify and berth cargo ships as they arrived in the transport area, and Army Engineer Special Brigades, specialists in beachhead organization, were to do the actual unloading.

Such, in brief, was the plan. It was agreed upon 4 months before the invasion by Lieutenant General Omar N. Bradley and Rear Admiral Alan G. Kirk, when they divided responsibility for the movement of supplies from Britain to the beaches between the Army and the Navy. The division of responsibility was sharply defined but it left the merchant marine in the somewhat anomalous position of serving one arm while under the direction of the other. The first flaw, the least "grinding of gears" in the meshing of Army and Navy functions might stall the logistical machine. As it was, German artillery shattered the WSA's tenuous relationships with both the sea and the land arm.

Before considering how the cargo ships began piling up off Omaha Beach like a lot of automobiles running down a dead end street, we should take into account some of the planning details whose object was the prevention of such an occurrence.

The cross-Channel movement of supplies during the assault phase was rather intricately controlled, and the unloading sequence at the beaches came under a "priority system." As soon as a WSA vessel was loaded in a British port, the stowage plan was supposed to be radioed to First U.S. Army Headquarters. Then, when the ship cleared port, word was sent to the First U.S. Army by fast motor launch or plane.

The First Army was to consolidate the data, give each vessel and its cargo a priority number, and then transmit the information to the Engineer Special Brigades on the beaches. As vessels arrived, the Naval Officer In Charge was to identify them, set a time and place for berthing, and notify the brigades of their readiness to discharge cargo. The brigades meanwhile, matching numbers with stowage plans, would assign amphibious trucks (dukws) for unloading ships accordingly.

The plan broke down completely. Stowage plans failed to arrive on the far shore. The Naval Officer In Charge was unable to locate all the supply ships. Communications were inadequate. Everything had been planned down to the last detail – and brilliantly planned – but the rough going at Omaha shook the plan apart. By way of contrast, at Utah Beach and the three British beaches where there was light to moderate resistance, unloading operations proceeded with almost spectacular success. Consequently at Omaha an unexpected and unplanned task fell upon the merchant marine for some days after D-day. It not only carried Army supplies across the Channel but in some instances unloaded the ships and gave what little impetus was possible to the ship-to-shore

movement of supplies which was lagging at the point of transfer from Navy to Army responsibility. Instead of being under a double command, WSA vessels for the time being were under none, or under that which they could improvise for themselves. The Army at the outset was engrossed in the far grimmer task of securing a beachhead. Men not materiel were needed on the beach. The supply ships lay offshore at a discreet distance.

It may be that the purpose of a conference aboard Admiral Kirk's command ship three days before the invasion was designed to forestall such a contingency. It was then agreed that ships arriving on the far shore would go to pre-assigned berths and Army dukws or other unloading craft would be made available to them on the spot. Stubborn German defense at Omaha prevented execution even of this refinement of the plan.

Cargo ships coming in behind the assault forces were ready to drop anchor and unload but by evening of the first day the embattled beachhead had more wreckage upon it than supplies. Deadly enemy fire had littered the beach with tanks, vehicles and landing craft. Tanks were either knocked out by enemy artillery or mines, or caught in beach obstacles and flooded in the rising tide. Some of the landing barges and dukws which escaped shells and mines swamped in rough water or "drowned" in waterholes. The Fifth Engineer Special Brigade lost 44 out of 156 amphibious trucks on D-day and D plus 1. Enemy fire was deadly accurate and obviously directed by concealed observers. German guns would be silent until one of our landing craft beached itself. Then there would be a few quick salvos, usually right on the target. These losses were to be gravely felt as more Liberty ships arrived from England and fewer unloading craft were available to ferry supplies to the beach.

The Bradley-Kirk agreement gave the Army authority to stop unloading merchant ships in an emergency. Under the circumstances, the Army had little choice. The Engineer Special Brigades gave -- or rather, were forced to give -- first priority to clearing the beach of wreckage and preparing it for the reception of cargo before a full attempt to bring supplies ashore. Delousing German land mines and clearing the tidal flat of hundreds of obstacles planted there by the enemy, naturally took precedence over the supply movement also.

But there was no hitch in the operations on the opposite side of the Channel. Ships kept arriving "in a steady stream" from Britain. Early arrivals, which were kept far out until D plus 1 by the beach battle, moved shorewards the next day with the fresh arrivals at their heels. By D plus 2 an "enormous pool" of unloaded vessels lay off Omaha. A merchant marine officer aboard one of them describes how they blanketed the sea:

There were ships against ships and I looked back over my shoulder once or twice, it seemed as though it would have been possible to have walked all the way back to England across the channel, merely by hopping from deck to deck. Ships were packed in there like men and women in the Grand Central Station.

On D plus 2 when the Naval Officer In Charge came ashore the advance echelon of the 11th Port also landed. This was an Army unit temporarily attached to the Engineer Special Brigades to assist in the unloading of ships and establishment of beach facilities. The Army and the Navy had plenty of ships to start working on by D plus 2. Too many, in fact. From the air, the sea off the beaches looked "like a country pond covered with water beetles." The task of identifying, locating, berthing and unloading such a vast

assemblage of supply ships in accordance with a rigid priority system, proved plainly impossible; impossible, anyway, if the job were to be done with requisite speed.

The late Enrie Pyle describes the effect of the congested shipping situation in a D-day story. He was aboard a troop transport carrying elements of the second wave of assault troops. They were experiencing difficulty in getting started for the beach and the famed war correspondent writes:

...the ocean was infested with ships. We were not able to go ashore immediately after arriving off the invasion coast amidst the great pool of ships in what was called the "transport area."... Although we arrived just on time, they weren't ready for us on the beaches and we spent several hours weaving in and out among the multitude of ships just off the beachhead, and finally just settled down to await our turn.

Settling down to wait was a precarious solution. A critical shortage of ammunition was developing at the front. Supplies had to be unloaded. But the Naval Officer In Charge was unable to cope with the pile-up of ships. Its sheer size and the inadequate communications available defied all efforts to bestir a plan that had lain inert since D-day. On the one hand, the Naval Officer In Charge had a swarm of uncoordinated shipping, and on the other, increasing requests from the Army for the exact locations of priority ships. The Engineer Special Brigades also were somewhere between a frenzy and a dilemma trying to get supplies out of the ships and into the hands of the infantry.

They decided the Naval Officer In Charge was "ill-equipped to assume his responsibilities," and began berthing and unloading ships without recourse to the Navy. Army officers, bound to their inflexible priority system, went cruising around the transport

area in small boats trying to match ships with priority numbers. There was an inspired loyalty to the plan, but it did not suffice for the desperate supply situation ashore.

A practice wryly dubbed "piracy" developed. Army dukws cruising about would question a vessel regarding its cargo and if it was deemed desirable or urgently needed, they would instantly begin unloading it. In some instances a vessel would be discharging cargo before its arrival was known to those on the beach.

The merchant seamen in many cases fell to with a will, substituting for Army stevedores to unload their vessel while Army personnel were busy fighting on the beach. An engineer officer aboard a Liberty ship loaded with ammunition reports how he helped discharge cargo when he was not at his station in the engine room:

All of us had to pitch in and get those ships unloaded fast... But, they were moving along, unloading fast and then getting the hell out of the way. Ships were unloading men and supplies -- and ammunition There was little idle talk on the merchant vessels. We were sweating.

But it was all makeshift and expedient. A chain reaction of unfavorable events was stifling the flow of supplies. The fierce beach battle had thrown back the unloading schedule, ships piled up, the pile-up grew too big to absorb or control; but the Army persisted in trying to unload according to a plan that had long since broken down. This lack of coordination had its effect on the merchant marine.

Due to the pile-up of ships and breakdown of plan, arriving ships were unable to fall into the prearranged scheme of berthing and discharge. Their masters frequently had no other recourse but to anchor in a place of their own choosing, faced with the ever-

present danger of running into a mine, another ship, or being struck by an enemy shell. On occasion vessels had to move farther out or to shift position when a German shore battery got the range on them. This tended to confuse the situation even more. Some ships anchored off the wrong beach sector or so far out that seven amphibious trucks were needed to work a hatch instead of three. Inevitably then, supply ships were long in discharging cargo as well as late in getting started.

Running across the Channel could be done blindfolded, but dropping anchor in the correct spot off the invasion coast was something of a feat, as the Continental Movements and Shipping Committee was to discover. This was an organization formed under the Supreme Commander some months before the invasion to deal with shipping requirements and problems for OVERLORD. Its membership included representatives of the WSA, the British Ministry of War Transport, and British and American Army and Navy officers.

At one of its first meetings after D-day, the Continental Movements and Shipping Committee found that many delays in routing came about because the masters of cargo ships were not being "fully briefed" as to their destination. Immediate steps were taken to overcome this by issuing "beach charts" to all masters showing them where to go. An unwanted consequence of sending vaguely instructed ship masters to the beachhead, was the confusion and difficulty inflicted upon the crews of LST's, dukws and other ferry craft who had to locate the vessels to which they were assigned for unloading.

One Liberty ship lay off the beachhead between three and four days discharging a cargo of jeeps, trucks, and 105 mm. howitzers, and disembarking some 500 artillery men. During that time the vessel narrowly escaped destruction from underwater mines,

German aircraft and artillery, even being "rocked and jarred" by an exploding land mine when it ventured too close to shore.

The crew came to have a healthy respect for the durability of enemy strong points ashore. Some of the German gun positions came under pulverizing naval bombardment for several days and still were able to throw back hot metal. Three and four days after the original landings the Germans were able to drop big stuff on the beachhead from guns sited in Trevieres. As late as June 10, this Liberty ship was forced to flee out to sea from its anchorage when it was straddled by enemy shells and splattered by shell fragments from an enemy position that deceptively appeared to be "a shambles" when examined through a telescope.

The radio officer aboard describes the vessel's arrival on June 7 and hasty departure 3 days later as follows:

With the breaking of dawn on the morning of June 7, we were off shore from the beachhead... At 7:30 A.M. a Liberty ship overtaking us less than 400 feet off the port beam hit two mines ... At 9 in the morning we anchored and prepared to unload our troops and cargo ... shore positions, above and below us, continued to fire shells into the beach ... Some of the fire was directed at the many ships discharging their cargo into barges of all types. At about 10 a troopship discharged and making out to sea hit a mine... With clearer weather the magnitude of the invasion was revealed On the morning of the 10th battleships, cruisers and destroyers were firing into a shore position that was a shambles as seen through a telescope, but continued to remain active. At 2 P.M. this same shore position threw shells in our direction. The first exploded 600 yards from us with each following salvo somewhat closer. At 3, the shells were

straddling the ship. The shells whined loud and sharp followed by a slamming impact and explosion. Large columns of water geysered up into the air as the shells landed 30 feet from our bow. Shrapnel left dents in the hull as we hurriedly went full speed astern striving to get out of range.

There were air raids every night during the vessel's sojourn off Omaha Beach, but no worse damage was sustained than the loss of the barrage balloon and the auxiliary radio antennae. Both were shot down the first night. When the ship went full speed astern from Omaha on June 10, she was headed for the quieter waters off Utah Beach. Cargo had been discharged and the ship hoped to await further orders off Utah relatively undisturbed. Instead she ran into the "heaviest" air raid since arriving off the invasion coast. Unscathed again -- although another Liberty ship suffered a direct bomb hit and was sunk -- the vessel steamed for England in convoy the following evening.

More than 5 days had passed since the first landings were made. By June 11, the Army had "won the ground essential to the security of its beachhead." Mines might still abound in the English Channel, and enemy aircraft might appear above it; but the Germans would be able to offer no more than this negative threat to the supply movement.

Development of the beaches into busy artificial ports could now proceed apace. The wreckage left by the battle was well nigh cleared away by D plus 5. But the somber residue of German resistance could be still seen in the massive backlog of supply ships still waiting to be unloaded.

Chapter III

THE FAR SHORE

A group of four WSA representatives were aboard ship somewhere in that great supply fleet stalled off the invasion coast. They had left England shortly after D-day and were the first WSA contingent sent to the beaches. It took them 3 days to get across but by June 12 they were ashore and had set up headquarters at both Omaha and Utah beaches. They were the first civilian agency of the United States Government to begin operations in the liberated France.

The group was headed by Mr. Ernest J. Bradley, WSA Deputy Regional Director for Northwest Europe. Two of his assistants were port directors and the third was a representative of the Recruitment and Manning Organization, responsible for matters affecting merchant seamen. Because their duties took them into a combatant area, they were required to wear Army officer uniforms on orders from General Eisenhower's headquarters.

Duties of the WSA in "captured ports" were defined in a joint Army and Navy agreement made on April 27. During phase "A" -- the exclusively military period of the invasion -- a WSA representative was to be attached to the staff of the Army Port Commander to advise him on shipping matters and to act as liaison between the Army and the Navy Port Commandant. WSA representatives were responsible for the immediate employment of captured enemy tonnage, advising and assisting in the operation, maintenance and repair of all WSA vessels, and dealing with matters pertaining to merchant marine vessels' crews.

Early in May an administrative memorandum from General Eisenhower assigned a WSA adviser to General Omar N. Bradley's headquarters, and defined with greater exactitude the responsibilities of WSA port representatives with respect to captured tonnage, stores, bunkering, repairs, ballasting, crews, turnarounds and agency agreements.

Unsnarling the offshore traffic jam and beating the unloading problem were imperative projects when the WSA came ashore. At that time the work of discharging cargoes was still being left largely to civilian crews.

Fortunately the WSA did not have to contend with the priority system when it began operations on the beach. The Army had removed that obstacle the day before -- June 11.

Much else had occurred on that significant day. A new Naval Officer in Charge had been appointed. The Army might have been inclined to ignore him as it had his predecessor, and continue searching for ships to unload on its own. But the new Naval Officer In Charge vigorously sought to restore Navy control over water-borne traffic. He strongly criticized the priority system, and asserted cargo ships should be unloaded as they arrive. Admiral Sir Bertram H. Ramsey, Allied Naval Commander-in-Chief, Expeditionary Force, (ANCXF) concurred in this view, expressing the opinion that as soon as supplies were out of the ships and on the beach, priorities would "take care of themselves."

As early as D-day, military leaders had considered bringing in supplies for American troops on Omaha over the less contested British beaches. With no easing of the situation 5 days later the Army cracked down on the obstructionist priority system.

General Bradley removed priorities on the unloading of MT (motor transport) Liberty ships. These were vessels utilized exclusively for the movement of jeeps, trucks, and other military vehicles from Britain to the beaches.

A tentative move in that direction had been made a day earlier, when U.S. Navy LST's and LCT's were ordered to discharge their cargo in the order of their arrival off Normandy. Another helpful move was ordering naval landing ships and coasters to beach themselves and have their cargo unloaded directly on the trucks at low tide. This decision to "dry out" LST's was avoided at first for fear the vessels would break their backs. Success of the procedure aided greatly in speeding supplies ashore. A collateral advantage was the number of small landing craft released from working the beached vessels. The landing craft were then assigned to the unloading of Liberty ships and troop transports anchored off shore.

These positive actions by Army and Navy authorities together with the suspension of priorities by General Bradley, the clearing and securing of the beach, all combined to pave the way towards a solution of the unloading problem. Further impetus was given by the arrival of the WSA beach party and their eventual assumption of "a larger part in the discharging operations than was previously planned."

The head of the American Mission for Economic Affairs in London, Mr. Philip D. Reed, visited the beachhead some ten or twelve days after the WSA began operations there and reported:

There have been certain difficulties in communications with the far shore, which we hope to overcome in the near future. These have led to some delay and disorganization in the handling of WSA vessels, but were probably unavoidable

under the exceedingly difficult circumstances of the first few days. Bradley and his staff have been treated extremely well and have been given a hearty welcome by the Army and Navy. He feels that they have been able to be of substantial help. In fact it seems likely that the WSA representatives on the far shore will be asked to take a larger part in the discharging operations than was previously planned.

Army stevedores attached to the Engineer Special Brigades who were to do the actual unloading of supply ships were prevented from doing so at the outset by conditions on the beach. Performance of this work by the crews of the vessels is commented on in the same letter:

The unloading of WSA vessels has proceeded as well as can be expected under the circumstances and without incident for the most part. In the absence of Army Port Battalions, the crews of these vessels have worked the ships themselves unloading into various types of landing craft. One M. T. Liberty discharged in what we believe to be a record of 13 hours. The crews have behaved extremely well on the whole and have done this work without complaint. We are doing our best, however, to arrange in the future for the Army to provide stevedores to discharge the ships, otherwise, having regard for the short, quick turnaround, our men will become fatigued.

The Continental Movements and Shipping Committee at its meeting on June 14, heard from a shipping official recently returned from the far shore, that the discharge of cargo at Omaha was "48 hours in arrears and not going according to schedule." It was pointed out that we had sustained heavy dukws losses in that area, but that the worst of the battle storm was over and the rainbow was already in the sky. Shortages there were,

indeed, but they were not critical shortages and discharge was "now" proceeding satisfactorily. By way of contrast, the more fortunate British beaches were believed to be only some 12 hours behind in their unloading schedule at the end of June 14.

Actually a most remarkable recovery took place at Omaha within a few days. On D plus 2, the first day for which figures are available, a total of 1,429 long tons of supplies was brought ashore at Omaha. A week later, on D plus 9, the amount had risen to 9,008 long tons. Approximately 10,000 troops and from 1,500 to 2,000 vehicles were then moving daily across the beach. The log jam of ships had been broken. This logistical "breakthrough" accomplished by the Army, Navy and WSA on the beaches, later was to make itself felt in equipment, machines and ammunition in the greater, more significant breakthrough achieved by American infantry and armor at St. Lo.

While desperate fighting took place at Omaha, the Utah beachhead was established with surprising ease. By nightfall of D-day the 4th Infantry Division and lesser units totaling more than 20,000 men and crossed the beach, and more than 1,700 vehicles had been brought ashore.

The supply build-up progressed rapidly. A daily tonnage target of 5,700 tons had been set for Utah beach. This was topped on June 15 when 5,736 tons were brought ashore and well surpassed the next day with 5,931 tons. The contrast with Omaha is obvious, for at this time it had only just succeeded in clearing up the last of the piled up ships.

Utah had several advantages over Omaha. To begin with enemy opposition was much less severe. Utah also was planned on a smaller scale. No artificial port was constructed there as at Omaha. A number of old merchant vessels were scuttled off Utah

Beach to provide a shelter for small craft but the Engineer Special Brigade was skeptical of the value even of that. Thirdly, only one Engineer Special Brigade was detailed to Utah whereas two which were formed into a brigade group, were required at Omaha. Finally, the Engineer Special Brigade and the Naval Beach Battalion at Utah had worked together in the invasions of Sicily and Italy, and they brought this valuable experience and knowledge of each other to bear at Normandy. The unloading of WSA cargo ships naturally profited from these conditions. Instead of encountering a plan that met with failure, the operation was scarcely marked with friction.

The Liberty ship CHARLES MORGAN illustrates the speed with which operational motor transport vessels could be discharged. The ship arrived off Utah Beach on the morning of June 8 loaded with jeeps and trucks and carrying more than 400 combat troops as well as 64 Army stevedores. By evening the combat troops were ashore, and the Army stevedores had emptied the holds of all cargo.

By June 18, a rising curve marked the flow of supplies at both beaches. At Omaha, where lost ground was being recovered fast, 85 percent of the tonnage target was brought ashore. Utah had been meeting or exceeding its target for several days. But on June 19 the weather joined the Axis. A storm blew up that morning which halted operations for 3 critical days. The supply build-up already behind schedule, was further delayed. The reserves of stores and ammunition sank to dangerously low levels. Unlucky Omaha was hit the hardest. Its wreck-strewn strand after the gale was reminiscent of D-day. Had the storm struck the beaches earlier in the invasion before some reserve supplies had been brought ashore it could have been "fatal" to the success of the landings.

Chapter IV

THE BLOCK SHIPS AND TUGS

Whatever else may have delayed other supplies, the WSA delivered the block ships on time. These were the old or war-damaged vessels manned by merchant crews which steamed in close to the beaches and were sunk to form a breakwater. Within a few days after D-day, staunch lines of systematically scuttled block ships (GOOSEBERRIES) were providing shelter for small craft off each of the five landing beaches.

True, stubborn German defense frustrated unloading plans at Omaha. But even if the landings had gone unopposed the unloading itself required moderately quiet waters. In order to bring several divisions ashore and then to maintain them, some check had to be placed upon the whim of the elements.

The Army was looking to the capture of Cherbourg to accelerate the flow of supplies. The port was scheduled to fall by D-plus 15. It took a week longer than that, and even so then the port was so demolished that only a limited use of its facilities could be made. German strategy was to fight tenaciously for the French Channel ports and when finally driven out, to leave them in a shambles. By the time this was accomplished, Patton's tanks had spearheaded a drive far inland and Antwerp was to become the main gateway for supplies.

But on D-day these were battles still unfought. Whatever else befell when the foe was met, General Eisenhower knew that initially the invasion would have to be supplied "over the beaches." Since there were no ready-made ports in the target area, the

invaders brought their own ports along with them. They were designed to permit "the unloading of stores to continue should the weather prevent discharge off open beaches." The solution was no less bold than it was obvious.

Five GOOSEBERRIES, or harbors for small craft, were formed by sinking a line of block ships off each of the landing beaches, namely, Omaha, Utah and the three British beaches. Two of these GOOSEBERRIES, the one off Omaha and one in the British sector off Arromanches, became parts of larger artificial ports which were called MULBERRIES. Two such artificial ports were built, MULBERRY "A" at Omaha and American forces, and MULBERRY "B" off Arromanches for the British.

The Omaha and Arromanches GOOSEBERRIES were enlarged into MULBERRIES by sinking or mooring huge concrete or steel structures called phoenixes and bombardons in conjunction with the block ships. The outermost components of the MULBERRY artificial ports were bombardons. These were cruciform steel structures 200 feet long, 25 feet wide, 19 feet deep, and weighing approximately 1,500 tons. They were anchored some 5,000 feet out from the high water line to serve as protective barriers against the action of the sea. About 1,000 or 1,500 feet in from the bombardons the phoenixes were sunk. These were concrete caissons 200 feet long, 60 feet wide and 20 to 60 feet deep depending on the depth of the water in which they were sunk. They weighed from 2,000 to 6,000 tons. As soon as they were nudged into position by tugs, sea valves were opened. The phoenixes took about 35 minutes to fill and settle and when flooded they contained up to 7,500 tons of water. Anti-aircraft guns were mounted on them.

Block ships were sunk a little closer to shore than the phoenixes -- not directly in front of them -- but adjoining them, so that the block ships and phoenixes formed a line

roughly paralleling the shore. The ends of this line were sealed off from the ocean by shorter lines of phoenixes sunk at right angles to the shore. The area thus enclosed by MULBERRY "A" at Omaha was to form a harbor area of 2 square miles accommodating seven Liberty ships, five large coasters, seven medium coasters and a host of smaller craft. Within this harbor, floating piers (WHALES) were built out from the shore 2,500 to 3,000 feet for the unloading of coasters and landing ships and craft.

Approximately 100 bombardons and 150 phoenixes, and some 10 miles of pier sections were towed across the English Channel by tugs. The block ships made it across under their own steam.

The British MULBERRY fared better than its American counterpart. MULBERRY "A" at Omaha was brought to virtual completion by June 18, and then was dashed to pieces by the storm which raged for the next 3 days. All the bombardons had been torn from their moorings, and were either beached or floating about, a menace to shipping. Most of the phoenixes were rendered ineffective, and the pier sections were torn apart, piled up on the beach, or twisted far out of line. The hardy block ships withstood the gales best of all. The backs of several were broken and the GOOSEBERRY was beached; nevertheless the line of block ships held and was still serviceable.

There was some thought of rebuilding the MULBERRY at Omaha, but after inspecting the storm damage, Rear Admiral Kirk recommended abandonment of the artificial port. He considered only the line of block ships worthy of reinforcement, although it was not believed the scuttled vessels could survive many northerly gales. The WSA made ten more block ships available for reinforcement, but they were used instead to strengthen the British artificial port off Arromanches. Pier sections and other components salvaged at Omaha also were sent to Arromanches.

Once the beach was cleared of wreckage, Omaha remained as the storm had left it. The breakwater of block ships was still able to afford shelter to small craft, but there was no protection for the big supply ships anchored farther out. Unloading these vessels remained an open sea problem, and supplies were brought in "over the beaches."

The artificial ports and the block ships so imaginatively used therein were a remarkable achievement. The story of this accomplishment and the WSA's contribution to it goes back more than 2 years before the invasion.

The British (possibly with a reverse-Dunkerque in mind) were thinking of artificial ports early in 1942. Prime Minister Churchill in a paper on "Piers for War Beaches" laid the problem before the Admiralty on May 30 as follows: They must float up and down with the tide. The anchor problem must be mastered. Let me have the best solution worked out. Don't argue the matter. The difficulties will argue for themselves.

The difficulties did argue the matter and always on the side of the Axis. Various designs were made, the project was put to a test in stormy Scottish waters and finally approved by an Anglo-American committee of experts in August 1943. Building of the components began that month. The Admiralty designed the bombardons; and the War Office designed the whales and phoenixes, incorporating into the latter recommendations made by the U.S. Navy Bureau of Ships. The Ministry of Supply carried out the work. Fifty thousand tons of steel were consumed and 20,000 men employed. When the work lagged in the spring of 1944, U.S. Navy Seabees and U.S. Army Engineers helped the British finish the construction.

WSA officials in London were called into consultation at the time of the final approval of the plan in August 1943 when Mr. Alexander C. Kerr, Regional Director for the United Kingdom and Iceland area, and Captain Jones F. Devlin, Jr., General Operations Manager for the area, conferred with Admiral Harold R. Stark, Commander U.S. Naval Forces in Europe (COMNAVEU). Captain Devlin was invited to examine maps and plans of the invasion beaches to determine if they were feasible for unloading operations from a merchant seaman's point of view. The nature of the tides and winds and the depths of water were studied. The sea floor was studied to locate level areas for the sinking of block ships and phoenixes.

Whether block ship were resorted to because of fears that sufficient phoenixes would not be constructed in time or whether they were considered earlier is not clear. One evident virtue of the block ships was that they could reach the coast under their own power and not require the services of hard-to-find tugs. In any event, the WSA heard from London on January 27, 1944, that approximately 60 vessels, to be furnished by the WSA and the British Ministry of War Transport on a "50-50 basis," would be required as breakwater for landing craft in the OVERLORD operation. Further details were given in a message from Lord Leathers, who represented Britain on the Combined Shipping Adjustment Board in London, to Deputy Administrator Douglas of the WSA.

According to preliminary estimates 25,000 feet of block ships were required, or about 53 ships of 450 feet. It was urged that the vessels should be nominated early in February so that they could be made ready by April 1. Work of preparing them was to be done in England. Lord Leathers suggested that the WSA might have some damaged but "mobile" ships. If not, the British would endeavor to provide from vessels under their control some old ships towards the WSA share of the breakwater. The British stipulated

they would have to be compensated for this "in ships," since all vessels in the block ship program would be permanently lost.

Deputy Administrator Douglas foresaw difficulty in finding enough expendable and "least desirable" vessels to form approximately 12,000 feet of breakwater; but within a week he was able to tentatively nominate 14 vessels, approximately half the requirement. All would be available in the United Kingdom by the March 15 deadline. Eleven were sailing from the United States, and three were damaged Liberty ships proceeding from the Mediterranean theater. The WSA also found nine additional vessels aggregating 3,500 feet, which could reach Britain somewhat later than March 15.

On February 5, the WSA tentatively named 21 vessels as block ships, including 4 concrete vessels just built by the Maritime Commission. On the same day the WSA was advised from London it would be helpful if the WSA would name 23 vessels "so their specifications can be examined in relation to the whole plan."

A faint sign that the block ship burden might be less exacting appeared late in February. Word came from London that the WSA and the British Ministry of War Transport each were to contribute 9,000 instead of 12,000 lineal feet, and that the British Admiralty would supply the balance of 6,000 feet with decommissioned warships. But the windfall was somewhat qualified. No one was certain the Admiralty could provide a full 6,000 feet, and it was felt they probably would be unable to make available more than half that. Lord Leathers was strongly resisting further use of merchant ships – American or British – but he wished to know to what extent the WSA could make up an Admiralty deficiency of 3,000 feet if such befell. Above all, he urged that the WSA "definitely" name the vessels to make up its own quota of 9,000 feet.

Deputy Administrator Douglas promptly responded by reiterating the 21 vessels that had been tentatively nominated earlier in the month plus three others. These 24 ships aggregated 9,776 lineal feet. But the list included the four concrete ships whose arrival in England on time, if at all, was doubted due to "operational problems." Meanwhile the WSA organization in London was surveying damaged vessels in the United Kingdom in order to have substitutions in readiness should any of the nominated ships fail to arrive or prove unsuitable. If all nominees managed to arrive and the substitutions could be added to them, the WSA would be able to provide a total of 11,100 feet of block ships. All would reach the United Kingdom by the March 15 deadline, except some 2,400 feet of block ships which could not be expected to arrive until the first half of April.

Meanwhile a British commitment of 23 block ships to form 9,000 feet of breakwater was made on March 2. The nominations included 14 of their own ships, 2 Norwegians, 2 Greek, 1 Dutch, 1 French, 1 Belgian, 1 Yugoslavian, and 1 Estonian prize.

The British and American commitments together with the reserve block ships being gathered by the WSA in London would have amply provided the 18,000 lineal feet required of merchant ships. However, in mid-march the Admiralty disclosed that it could provide only 2,000 of the 6,000 lineal feet which Lord Leathers had insisted should be made up of British warships. The WSA and the British Ministry of War Transport were thus suddenly called upon to make up a deficit of 4,000 feet. Moreover, the emergency arose 2 days after the March 15 deadline, and after both shipping agencies had combed finely through their respective merchant fleets for the "very old and decrepit category" of expendables which were to be sacrificed at the Normandy beaches.

At this time the WSA was able to muster 10,133 feet of block ships, but without making any allowances for "mishaps." London requested additional vessels to cover the new United States share of 11,000 lineal feet, as well as some extra vessels as a safety margin. The deadline, charitably, was postponed until April 15.

The WSA brusquely threw the entire responsibility back upon the British. On March 18 Mr. Douglas declared that it was "impossible" for the WSA to find any more block ships even though the deadline had been set back a month. He suggested that Lord Leathers make up the block ship deficit from old British tonnage for which the WSA later would compensate the British with similar old ships.

Lord Leathers, though hard put, acquiesced.

But the anxieties of the WSA were by no means over. Mishaps were now forcing deletions from the list of 24 WSA vessels nominated in February.

One of the concrete ships was damaged in a collision and forced to put in at Bermuda for repairs. A second concrete ship was withdrawn. Another ship was held up repairing in Halifax, a fourth ran aground. Even some of the reserve substitutions could not be counted upon, one being eliminated because it would take 4 months to make the vessel "self-propelled and self-maneuverable." Delays added to the apprehension.

One ancient nominee was compelled to stop at the Azores for engine repairs. Another was held up by discharging cargo and then by dry-docking in the United States. Late in April another block ship was blasted out of the program by an enemy torpedo.

Prospects of 9,776 lineal feet of block ships in February and hopes of 11,100 feet in March had shrunk to 9,035 feet by April. It was too late to nominate ships on the American side of the Atlantic. Damaged vessels in the United Kingdom must fill the breach, but it was not advisable to sacrifice slightly damaged vessels. Because of the dire need for shipping, it was preferable to quickly repair such vessels and keep them in service. The choice must fall on severely damaged vessels, which normally would be laid up for extensive and expensive repairs, provided, of course, they could be patched up in time to make the run across the English Channel. This was done with four Liberty ships which had been brought into British ports after being torpedoed. They had holes in them one could drive a horse and cart through. The patched up vessels barely managed to make up the footage lost through deletions from the program.

Five weeks before the invasion the WSA office in London was able to report that 17 block ships totaling 7,284 lineal feet were in the United Kingdom, and 5 more of 1,903 feet were enroute. These 5 included the remaining 2 concrete ships, a 43-year-old vessel, a 33-year-old vessel and a comparative youngster built for World War I. All managed to reach Britain in time to be sent to their final anchorage off France.

In all, the WSA provided 22 vessels made up as follows: 2 concrete ships, 7 Liberty ships, 8 World War I vessels, and 5 built even earlier. Their doomed hulls measured up to 9,187 lineal feet, just enough to meet the WSA's original commitment with about half a ship to spare.

The British Ministry of War Transport had scraped together 31 ancient vessels aggregating 12,243 feet by the end of April, and the British Admiralty had brought its contribution of warships up to about 3,000 feet. A breakwater of 24,000 feet thus was assured. Because the WSA contribution had a slim half-ship safety margin, the British,

either from an excess of invasion fever or from caution, agreed to provide a reserve of exactly 1 ship 400 feet long.

The problem of finding block ships duplicated itself somewhat in the matter of tugs. The phoenixes, bombardons, pier sections, and pierheads were being built at many points along Britain's southern and eastern coasts. In six or seven months -- it was hoped -- these awkward, unwieldy things would be gathered at precise, designated spots off Normandy and there -- moored, scuttled, or lashed together -- would form artificial ports. But shortly after construction of these components began, the Admiralty reported that the lack of tugs would "prejudice" the project. A month later the Americans echoed this concern when the Task Force Support Section of Admiral Stark's headquarters in London stated that the tug shortage would bring these vessels into their "true light as a chief determining factor of MULBERRY's usefulness in the critical days following the initial assault." Indeed, the MULBERRIES might well have died on the vine in England, had not the many cumbersome components of the massive project been rendered "seagoing" by the most herculean towing operation ever attempted. The task involved 400 units aggregating 1.5 million tons, and the rate of assembly on the far shore called for approximately seventy-five heavy cross-Channel tows a day. Military leaders placed such importance on the MULBERRIES that special lanes were reserved for towing them through the minefields.

In order to accomplish such a towing job, the average little tug that can be seen puffing about the quiet waters of a harbor would not suffice. Powerful fellows were needed that could fasten a line to a 5,000-ton phoenix and make way with it against the strong tides and vicious cross currents of the English Channel: one of the roughest and most unpredictable stretches of water in the world.

Originally, it was thought 90 tugs would be needed: 65 to be provided by the British and 25 by the U.S. Navy. Both met their requirement. The British had several hundred tugs of 450 horsepower and over, but all were in great demand when United Kingdom ports began to feel the full brunt of the pre-invasion activity. Nevertheless, by October 1943, the British had earmarked 65 of their larger tugs for OVERLORD. The tugs which the U.S. Navy was allocating all reached the United Kingdom by the middle of March 1944. But meanwhile tug requirements had been boosted to 130 and then to 160 vessels. The problem was to find these extra vessels. The U.S. Army made 6 big tugs available as well as a large number of smaller tugs and harbor craft. Thirteen other big steel Army tugs had slipped out of the program; as replacements, it was proposed that an equal number of 1,200 horsepower wooden tugs be sent to Britain from the west coast of the United States. For some reason this was never done. Reviewing the situation early in 1944, the Task Force Support Section saw tugs available by April 1 in the following numbers:

<u>Source</u>		<u>Large Tugs</u>		<u>Medium Tugs</u>	<u>Totals</u>
British	15	(1,500-3,000 hp)	50	(750-1,000 hp)	65
U.S. Navy	18	(1,000-1,500 hp)	7	(750-1,000 hp)	25
U.S. Navy	<u>6</u>	(1,000-1,500 hp)	<u>29</u>	(600-700 hp)	<u>35</u>
	39		86		125

This made a total of 125 big tugs for OVERLORD, but only 39 were tugs of 1,000 horsepower or better. Approximately 300 small tugs and sea mules also were available, but their numbers did not meet precisely the need for powerful individual units.

Before the MULBERRY components were towed across to Normandy, they were brought from the many points where they had been built to assembly areas on the south

coast of England. Most of the phoenixes were brought to Selsey Beach near Portsmouth, and the bulk of the bombardons were assembled at Portland harbor. The tug shortage, however, hampered the assembly movement, and a lack of coordinated control over U.S. Navy, U.S. Army and British tugs did not facilitate matters either. Accordingly, Admiral Stark requested Vice Admiral Emory S. Land, Administrator of the War Shipping Administration, to send his Assistant Deputy Administrator for Small Vessels, Rear Admiral (then Captain) Edmond J. Moran, Jr., to England to "coordinate" use of all U.S. Navy and U.S. Army tugs in the European theater.

Admiral Moran arrived in England some weeks before D-day. He not only took charge of American tugs, but SHAEF reported, began "pressing" British agencies for more effective coordination of British tug resources with those of the United States. Before long the WSA was advised that Admiral Moran was doing a "splendid job in a tough situation." The British were equally enthusiastic and Admiral Moran was placed in charge of combined tug operations for the opening phase of the invasion. This was accomplished by the formation of Tug Control (COTUG), an organization specifically created for the direction of all cross-Channel towboat operations, and Admiral Moran was placed in command. His control extended to the British as well as American landing beaches.

It was suggested that minesweepers be used to relieve the tug shortage; but they were not particularly adaptable, and Admiral Moran decided against using them. Instead, he cabled the WSA for tugs. That the WSA had tugs to give him was due to circumstances which can only be described bromidically as fortuitous. The Maritime Commission had just built 49 of its big, oceangoing V4 tugs and turned them over to the WSA. They were built as part of an ambitious tug and barge program developed during the shipping crisis early in the war; the tugs were to tow huge barges loaded with sugar

and other bulk commodities thereby releasing the shipping normally used in such services for war purposes. But this barge towing program was left largely unperpetrated, and the giant V4 tugs became available for other assignments. Admiral Moran requested and got nine of them in May and later got four more. A number of Dutch and French tugs also were pressed into service and added to COTUG's vessel pool.

By June 1 the artificial port components were pretty well assembled in the south of England, and on D-day the MULBERRY task force sailed for Normandy, arriving off the beaches on the morning of D plus 1. Phoenixes were towed individually by large tugs to the beachhead where three or four small tugs would then maneuver each phoenix into position. Ninety phoenixes were towed to the American and British beaches, and all, Admiral Moran reports, were sited and sunk within 2.5 feet of their planned positions. The pier sections (WHALES) were towed from the assembly areas in England in groups of six.

Although Admiral Moran was an Assistant Deputy Administrator of the WSA, a civilian agency, he and the COTUG organization came under naval authority. The WSA tugs assigned to COTUG, however, had civilian crews and manning them was a "WSA responsibility." The allocation of nine V4 tugs in May posed the question of crew replacements in the event of casualties or any emergency. Tugboat crewmen were scarce in Britain, and it was deemed inadvisable to draw upon naval personnel; so at the eleventh hour, Admiral Moran cabled the WSA to send him immediately six deck and six engine room officers. Ten of these civilian officers under special contracts were flown to London May 25 and the remaining two on June 1.

The power of the rugged V4 tugs was put to good use in the hurly-burly offshore during the landing operation, and the masters of all of them were awarded the Bronze

Star Medal by Admiral Stark. They were cited for successfully bringing vital military and naval equipment through heavily mined water to assault areas despite "the unwieldy nature of the tows, the strong cross winds and rough seas."

Chapter V

THE LAST VOYAGE

A quick voyage in the wake of one or two of the WSA block ships from the time they were chosen for the assignment until dynamite punctured their sides, and they settled in two fathoms off Normandy is not without interest.

The POTTER was built in 1920 in New Orleans and operated by United States Lines. When the crew wondered about the 2,600 tons of sand loaded in her lower holds before she filled up with war supplies in New York Harbor in March 1944, the WSA port representatives said, "It's a special job."

The POTTER seemed like a wise choice for a block ship, she was 24 years old and wearing out. But when she twice put back to New York for engine repairs after twice clearing for Liverpool a certain skepticism arose. Would she make the trip across? She did although the engines misbehaved all the way. Fortunately no U-boats were encountered. The POTTER's heavy guns had been removed in New York, and she had only anti-aircraft guns to answer enemy attack.

In Liverpool the cargo was discharged and practically everything else was taken out of the ship except the sand. Crews quarters were stripped to a chair and a bunk per man. Even the crews' extra clothing and personal belongings were sent ashore. In effect the ship was partially "cannibalized." A prevailing problem of the WSA in the United Kingdom was finding spare parts and gear to refit and repair vessels constantly arriving

in British ports damaged by enemy action or heavy seas. Salvageable gear from the POTTER as well as from all the block ships went for this purpose.

The POTTER's anti-aircraft weapons were all mounted high in the superstructure so they would remain effective after the ship was partially submerged. Great care was taken in ballasting the vessel so she would settle on an even keel. U.S. Navy demolitions experts placed dynamite charges fore and aft. They were of precise power -- enough to pierce the hull below the water line, not enough to shatter the hull. All that was needed to sink the vessel was to pull a switch. The POTTER was ready.

Older and more decrepit than the POTTER was the VICTORY SWORD, a converted tanker built in Quincy, Massachusetts, in 1910. When she left New York in February 1944 with a cargo of military supplies for the United Kingdom, none aboard knew it was to be her last outbound voyage. She discharged her cargo and lay at O'Ban, Scotland, for several weeks. When a WSA representative told the crew their vessel was to be a block ship, "many of them never expected to get out of the operation alive."

At the Glasgow Navy Yard the VICTORY SWORD was stripped of all winches, booms, rigging, tools and spare equipment. Bulkheads were out so the bare hull would flood evenly. Four dynamite charges, one on each side fore and aft, were fitted and covered with sandbags. The VICTORY SWORD returned to O'Ban for more waiting.

The other block ships were prepared for scuttling by the WSA in a number of United Kingdom ports; Hull and Newcastle on the east coast, Cardiff, London, and other ports to the south. Late in May they moved to convoy assembly ports where they were broken into several groups each with separate escorts. They sailed under sealed orders, each master having his instructions in an envelope marked "not to be opened until

signaled by the convoy commodore." They were the first invasion convoys to put to sea, getting underway on June 1, several days before the main assault forces started for the beaches.

Most of the block ships were cripples and convoy speed was 5 knots. Some like the POTTER had bad engines. Others were down at the head or stern, their old hulls scarred and battered. The war-built Liberty ships were also war-bothered. Only a year or two out of the shipyard, all showed marks of contact with the enemy. The JAMES W. MARSHALL had been hit repeatedly at Salerno and parts of her were still gutted by fire. The JAMES IREDELL had burned for 68 hours after German bombers scored three directs on number 2 hold while the vessel was unloading aviation gasoline in Naples. Two explosions had sent the crew of the MATT W. RANSOM over the side, but she stayed afloat so the crew reboarded the vessel and brought her into port. At Normandy when the crew would go over the side, they would be leaving her for good.

The block ships gave their escorts a busy time keeping the convoy formation intact. They fell behind, lost position, or stopped completely to repair broken steering gear. The master of the POTTER was sure they drove the escorts "crazy."

The VICTORY SWORD had left O'Ban on June 1. As she came down the Bristol Channel in convoy 4 days later, part of the main assault force steamed proudly past her. An hour later the vessels steamed back and the crew of the VICTORY SWORD guessed correctly that the invasion had been postponed. But the VICTORY SWORD's convoy kept plodding on. They pulled in at the Isle of Wight, almost directly opposite the invasion beaches and lay over one night. By now the crew of the VICTORY SWORD had learned that their vessel and another block ship, the WEST HONAKER, were scheduled to be sunk off Omaha Beach on the morning of June 10. They may have

derived some comfort from that; June 10 was four good long days after D-day. They left the Isle of Wight on June 6 -- D-day -- and arrived at Omaha on June 8. En route across the ship-crowded Channel, a German plane swooped down low over their convoy and sent a torpedo into the WEST HONAKER. But like a wounded elephant going off to die somewhere in the jungle, the old hulk managed to keep going until put to rest in her appointed place in the breakwater.

The POTTER was in another convoy, but she was also headed for Omaha Beach. Her last night of steaming in the open sea ended just as she passed Land's End, southernmost tip of England. As the block ships swung eastwards towards the landing beaches, dawn lifted the curtain on the spectacle that was the Normandy invasion. The POTTER's convoy was but a small part of a "black mass" of ships veering around Land's End. These were the vessels which had cleared from the United Kingdom's west coast ports. Dead ahead coming through the Straits of Dover was another "black mass" of ships, comprising the vessels which had cleared from the United Kingdom's east coast ports. Between the two converging armadas stretched the English Channel and the southern coast of England. From this coast hundreds of other ships were steaming out from ports and staging areas until a total of 4,000 Allied ships were turning their prows towards the landing beaches. The skipper of the POTTER describes the scene:

We came around Land's End in the dawn of D-day and the ships we saw staggered the imagination... Our exact course through swept channels was marked to the inch... We were assigned to "Omaha Beach"..... and our spot in the line of sunken hulls was marked to the foot, lined up with bearings of objects ashore. It looked precise on paper. But it wasn't easy. There was plenty of wind and tide and Germans to fight. When we got near the beach, we were solid streams of landing craft packed with men and their equipment... We crawled on

almost helpless among all those fast, powerful, busy ships. But offshore there was a fresh little towboat waiting for us just as if we were entering New York Harbor. That tug didn't waste any time. He took hold of the first ship the minute it anchored on its assigned spot and started hauling the stern around. As soon as the ship was set, her crew went over the side into landing boats and we could hear the dull boom of the sinking charges. She went down quick and even, her upper decks sticking out of water. The next ship tied on to her stern. It would have been a tough job of navigation anyway, but about that time the German spotters ashore must have figured out what we were up to. Some shore batteries started throwing big stuff at us and a couple of eight-inchers fell within ten yards of the POTTER. We were drenched... The shells landed all around our broken-down fleet. But they didn't hit a ship squarely. Later, when the Stukas followed up the land batteries, some of our bunch were hit and their crews abandoned ship. But those hulls, damaged and old as they were, held together. When the captains saw they weren't going to sink, they went back aboard and got up steam again. The sinking went on all day long. Sometimes it would take hours to maneuver a ship just right against the wind and tide and shells... Finally it came our turn to sink... We pulled off in a landing boat and in a couple of minutes we saw the old ship shudder and start to go down. First she took a heavy list, but the POTTER was always pretty well behaved and she straightened out and rested straight up and down in less than ten minutes.

The master's unadorned account has the force of understatement. One can almost hear the dull boom going off that opened the POTTER's sides and one can almost see the geyser of water flung up when a German shell smashed into the sea. No true sailor likes to see his ship go down but the master of the POTTER admitted "there was some sense to this." As he and his crew rode back to England in an LST, he says,

"The wounded men made us feel a lot worse than our wounded ship. We never set foot on the Normandy beach, but we saw and heard of the hell that was going on there."

The task which the crew of the POTTER, VICTORY SWORD, WEST HONAKER, or any block ship performed at Omaha is notable primarily because of the condition under which it was performed. While a battle of unexpected severity was developing ashore, the block ships phlegmatically steamed in close to the watery fringe of the struggle, there to be sunk and formed into a breakwater as planned. The GOOSEBERRY operation was not a haphazard scheme such as blocking a channel with a hastily scuttled ship, or clogging a harbor with half-submerged hulks. It was a carefully calculated operation to construct a bastion of sunken ships and to provide a refuge for the landing craft that might otherwise founder in the choppy seas.

What credit goes to the more than 800 merchant seamen and officers who manned the WSA block ships should be for their navigation, their skill as ship handlers and their steadfast patience in sticking to a job until each vessel was properly positioned. They brought their ships into dangerously shallow waters, where tidal currents were strong, winds were adverse, seas were rough, and the area was congested with other shipping. They put into effect the plans made months before when sea charts were scanned and the floor of the ocean studied. Handling the fractious, semi-disabled block ships under such conditions required seamanship of a high order.

The block ships of Omaha were lucky. Some were hit and 10 men were casualties from enemy artillery on D plus 1, but not 1 ship was knocked out or prevented by enemy fire from being sunk in her allotted place. Construction of the Omaha breakwater began on D plus 1 as scheduled. A survey was made for sitting the block ships along the two fathom line at low tide and 3 hulls were sunk into position that day.

Three more were sunk on D plus 2 and the entire Omaha GOOSEBERRY was completed on D plus 4. It comprised 12 WSA vessels and 1 British warship, CENTURION.

Some 10 miles away on the eastern shore of the Cotentin Peninsula the Utah GOOSEBERRY was taking shape. One can never turn from Omaha to this beach without thinking of the phrase, "fortunes of war." Omaha caught most of the trouble.

The Utah breakwater came under accurate enemy fire but even this proved something of a boon. German guns zeroed in on the block ships and sank the first two of them. Luckily the shells hit just as tugs were nosing the ships into place and they went down in approximately the correct position. The tugs cut loose from the block ships too quickly in order to escape the enemy shelling and this caused gaps of several feet between the first and second, and the second and third vessels. Otherwise the breakwater was lined up perfectly.

The Utah GOOSEBERRY was about half the size of the one at Omaha, being made up of seven block ships. It was started the day after Omaha and took longer to lay down. Thirteen block ships were sunk at Omaha in 4 days and seven were sunk at Utah in 6 days. The apparent lag had little effect on unloading operations at Utah which was encountering few of the problems hampering ship to shore traffic at Omaha. The special Engineer Brigade responsible for unloading cargo ships at Utah was rather indifferent to the breakwater. They claimed it got in their way and was more a hindrance than a help.

Chapter VI

THE CREWS

If the WSA was pessimistic about its capacity to provide expendable vessels when the request for block ships first was made, it was even less sanguine about finding the crews with which to man them. Deputy Administrator Douglas anticipated difficulties to such an extent that he approached the British Ministry of War Transport about transferring the registry of American block ships and manning them with British crews.

The British had manpower problems of their own. They regarded the GOOSEBERRIES (block ships) primarily as a naval responsibility but in order to conserve the Royal Navy's manpower, the British Ministry of War Transport assigned navigating officers and engine room personnel from their Merchant Navy to the British vessels. This had the added advantage of placing some men aboard who were familiar with merchant ship operation.

The American query about the possibilities of crew help never got beyond the informal stage. The Admiral made it plain there was not the slightest chance of placing British crews on American block ships.

With the Royal Navy responsible for the British GOOSEBERRIES, the British assumed that the U.S. Navy would accept the same responsibility for American block ships. They were wrong. The U.S. Navy was quite willing to have the block ships under its "orders," but declared itself unable to provide the crews even before it was asked. The U.S. Naval Task Force Commander in London took the lead as early as February 22, 1944, advising the Chief of Naval Operations in Washington that the British were

going to place merchant crews aboard their block ships, and he suggested that assurance be obtained from the WSA it would provide merchant officers and seamen for the American block ships. He added that the block ships would steam under their own power across the Channel arriving in the assault areas on D plus 1 and would be sunk in about two fathoms. The WSA was to allocate all block ships for the American beaches and some to be sunk in the British section.

Unable to obtain aid on either side of the Atlantic, Mr. Douglas was constrained to agree to "skeleton merchant crews" on the WSA block ships. But a week or so later he was concerned over two other matters; how to insure prisoner-of-war status for any civilian seamen who might be captured during the invasion, and the status of WSA block ships assigned to the British sector which "presumably" would be under British naval command.

Mr. Douglas was prepared to send via fast ship Maritime Service uniforms to American crews manning the block ships to insure their prisoner-of-war status in case of capture. He requested clarification from London on the other point.

About this time clarification of any sort became beclouded by a growing confusion over the difference between "MULBERRIES" and "GOOSEBERRIES." Mr. Douglas confessed his own dilemma in a message to Philip D. Reed, Minister of Economic Affairs in the American Embassy in London.

His "understanding" at that time was that block ships were MULBERRIES which was exactly wrong. But he sought advice of London to settle the matter, and requested that Mr. Reed clear this reply with the British as well as with the U.S. Navy and U.S. Army officers in London "so that there may be no room for confusion thereafter." Authors

of the confusion were the British Ministry of War Transport for sending an erroneous message, as Mr. Reed discloses in a rather jocose letter to Mr. Douglas on March 31:

I hope our cable on the subject adequately cleared the air as to the meaning and status of the several members of the berry family that have recently assumed military significance far beyond their station in life. One of the reasons for confusion I am told, was a message from MVT to their Shipping Mission (in U.S.) which was later corrected.

Mr. Reed probably referred to a most lucid message sent by British Shipping authorities in London to the British Merchant Shipping Mission in America which transmitted it in turn to the WSA. It explained that MULBERRIES applied not to ships but to the entire artificial port operations, and that GOOSEBERRIES indicated the ships to be sunk to form a breakwater, either independently or as part of an artificial port. It may be Mr. Douglas was still hoping for help in manning the WSA block ships because the London message explained not only how the British GOOSEBERRIES would be manned, but stated that no British crews would be available for American vessels.

Further clarification came directly to Mr. Douglas from Mr. Reed a day or so later. It was then planned -- but not yet fully confirmed -- to man the WSA block ships with American merchant seamen. The armed guard and communications personnel would be provided by the U.S. Navy. When the block ships were sited and ready to be sunk, the merchant crews would transfer to U.S. Naval vessels for return to the United Kingdom.

This might work well enough in the American sector, but the WSA was still concerned about the status of those of its block ships which were to be sunk off British

beaches. A transfer to British registry so British crews could be placed aboard these vessels was again suggested. But neither the Ministry of War Transport nor the Royal Navy was able to extend the limits of its manpower beyond its own ships. In fact, London acknowledged that some British crews might be under the United States and vice versa.

The WSA also was advised that the consensus among shipping and military authorities in London was that uniforms for merchant seamen were not necessary and they would be entitled to treatment as prisoners-of-war if they were provided with certificates of identification which, it was said, the U.S. Army was prepared to issue.

The Recruitment and Manning Organization of the WSA, which was responsible for matters relating to the welfare of merchant seamen, requested these certificates for the block ship crews, numbering "somewhat less than a thousand" men. It was the Army's decision that sufficient stocks of cards were not available for the number of civilians requiring them, and even if there were, sufficient time did not remain to fingerprint and photograph all the merchant seamen dispersed throughout the United Kingdom in order to properly fill out the certificates. The Army assured the WSA, however, that the merchant seamen manning the block ships were accompanying the Army under such circumstances as to give them prisoner-of-war status if captured.

When the merchant officers and men took their block ships across the English Channel, they had neither uniforms nor Army identification cards; but what was probably more important, the Army had provided them with helmets, gas masks, lifebelts and similar necessary gear.

Some of the official correspondence would indicate the block ships were manned by skeleton or reduced crews, and newspaper accounts following the invasion referred to

the crew members as volunteers. It is not clear if both these conditions applied with respect to all block ships.

The master of the POTTER mentioned he was given confidence about the outcome of the operation when his entire crew of thirty-eight men volunteered to go along with the ship to Omaha Beach. The purser of the VICTORY SWORD carried a crew of 36 merchant seamen and a Navy armed guard of 10 to the beaches. Volunteers or not, this appears to be a rather well-padded skeleton. It comes close to a ship average with more than 800 merchant seamen distributed over 22 block ships.

Skeleton or not, this is no more than was absolutely necessary. All men stood double watches and were constantly on the alert for enemy planes and mines. The U.S. Navy had stipulated a minimum armament of four 20 mm guns mounted on high pedestals on the mid-ship island of each block ship. If the VICTORY SWORD carried no more than this minimum, it would have been a tall order for a Navy armed guard of 1 officer and 9 enlisted men to maintain effective watches on all 4 guns all the time. The VICTORY SWORD hovered off the beaches until June 10 waiting her turn to be sunk. She did considerable firing during air raids and naturally the merchant seamen helped the 10 navy armed guards man the guns. The firing was so intense that the crew formed a bucket brigade to carry sea water up to the gun mounts and cool off the 50 caliber machine guns.

The last man off the VICTORY SWORD when she ceased to be a ship and became part of the breakwater was the U.S. Navy officer commanding the armed guard. The merchant seamen and the 9 enlisted men of the Navy gun crew were taken off the ship in landing craft. The naval officer remained on board long enough to set off the dynamite charges. The crew of the VICTORY SWORD boarded a Liberty ship which

picked up the merchant seamen from 5 other scuttled block ships and brought them back to England.

Fortunately, all the WSA block ships were sunk without the loss of a single man. Their mission was an important one, it was quickly accomplished, and as quickly acknowledged. Admiral Sir Bertram H. Ramsay, allied Naval Commander in Chief, Expeditionary Force, citing the twenty-two American merchant ships which were sunk to form breakwaters, wrote to the WSA:

This reflects the greatest credit on the officers and men who manned these vessels. Particular praise is due to the Engine Room staffs for their tenacity and devotion to duty; especially in the case of those ships which had to be positioned while under enemy shell fire. The result of their effort is already bearing fruit and the shelters they provided are of great benefit to the Army. It is requested you will convey to all the officers and men concerned my high appreciation of the valuable services they have rendered to the Allied cause.

Chapter VII

ENEMY ACTION

The first WSA vessel put out of action by the enemy during the Normandy invasion was the Liberty ship FRANCIS C. HARRINGTON. She ran into two mines early in the morning of D plus 1, sustaining serious damage in the stern section, including a large hole blown through the port side. Nearly all of the auxiliary machinery was either disabled or damaged, four sections of the main shaft were sprung, all shaft tunnel bearings were fractured, her bottom shell plating in the stern was "badly corrugated" causing many leaks, the rudder was distorted and the propeller tips were bent by the force of the blast.

When the HARRINGTON struck the mines, the second officer was awakened by "the worse sound in the world." Two days later the vessel was still lying off the invasion beaches waiting to discharge cargo and be towed back to England. The second officer hopefully wrote his wife that he might soon be coming home as a "passenger on the QUEEN MARY" because the HARRINGTON seemed to be ready for the "junk pile."

But the second officer did not reckon on his own shipmates in the engine room. Heroic efforts of the chief engineer saved the ship. He and his crew worked for 5 days, often in water up to their necks, effecting emergency repairs. The main line shaft was straightened with hydraulic jacks, broken bearings were removed and -- remarkable feat - - wooden bearings were fabricated and installed, and auxiliary machinery was repaired sufficiently to enable the HARRINGTON to return to England under her own steam. She arrived in Southampton on June 17, and dry-docked 3 days later at Middlesboro. On

July 8, completely repaired, the HARRINGTON went back into service with the U.S. Army.

Three months later Chief Engineer Leonard W. Valentine, of Baltimore, MD, received the WSA's highest award, the Merchant Marine Distinguished Service Medal, for his:

... skill, ingenuity and stout determination which resulted in the deliverance of a vitally necessary cargo and the eventual salvaging of his ship.

Subsequently eight other members of the crew were decorated with the Merchant Marine Meritorious Service Medal for their work in putting life back into the shattered HARRINGTON.

The HARRINGTON, blasted from below, was the first victim -- but the ship survived. The CHARLES MORGAN, attacked from above, didn't. This Liberty ship fell victim to a German dive bomber off Utah Beach shortly before dawn on June 10.

The MORGAN sailed from Newport, South Wales, on June 5, joining a convoy of 50 vessels in the Bristol Channel before proceeding to France. In addition to a merchant crew of 45 and an armed guard of 27 U.S. Navy gunners, aboard were the British convoy commodore and his staff, 2 Royal Navy plane observers, some 400 troops of the Second Infantry Division, U.S. Army, and 64 stevedores from an Army Port Battalion. In the holds were jeeps, trucks and small arms ammunition.

The convoy crept across the Channel at 4 knots. On the night of June 7 they were attacked by German aircraft and E boats. The naval escort drove off the attackers, destroying several E boats. The following morning Utah Beach lay before them.

The MORGAN anchored a quarter of a mile offshore and the Army stevedores began immediate discharge of cargo to landing craft. Within 12 hours the ship was unloaded and the infantry troops had been sent ashore. The Army stevedores remained aboard ship. The MORGAN was ordered to move about a half mile further out and await unloading of the other ships so the convoy could be reformed for return to England.

Just before the 0400 watch changed on the morning of June 10, the MORGAN was resting easily at anchor on a smooth sea. She was completely blacked out, and her radio was silent. A barrage balloon moored to the after mast floated in the gloom a thousand feet above. The ship, a dark blur on the water, at times seemed to be no more than the balloon's shadow. There was bright moonlight from a three-quarters waning moon but high alto-cumulus clouds obscured the moon making visibility uncertain and poor. From time to time, however, moonlight would plunge through a rift in the clouds and fall upon the MORGAN like a spotlight.

Nine men were topside. There were three lookouts on the bow, three on the bridge, and two aft. The ninth man, able-bodied Seaman Paul O. Hilden, was sitting on number 4 hatch drinking a cup of coffee. He was due to go on watch at 0400.

At 0400 or shortly before, a two-motored German bomber came in above the barrage balloon and made a dry run over the MORGAN from stern to bow. He wheeled about in a semicircle and coming back across the ship from starboard to port, released a 500-pound bomb, scoring a direct hit on number 5 hatch. The bomb went through the

upper 'tween deck and exploded. Number 5 hatch gave way in all directions. The hatch covers and strongbacks were blown sky high, port and starboard sides were blown open, a hole was blasted in the bottom and the bulkhead between number 4 and 5 holds was ruptured.

The shaft alley flooded immediately; but the watertight door held, and there was little leakage into the engine room. Water also was pouring into number 4 and 5 holds while the upper parts of these two holds were in flames. The onrush of the sea and quick action by the crew in manning fire-fighting equipment extinguished the flames in 5 minutes. But the crew was trying to save a ship that was sinking underneath their feet. Within 10 minutes the MORGAN settled at the stern in 33 feet of water. The bow remained afloat.

Twelve Army stevedores were sleeping in the 'tween deck of number 5 hold when the bomb exploded. Seven were killed. Able-bodied Seamen Hilden also was killed, his body flung over the side by the blast.

Shortly after daybreak the U.S. Navy salvage tug KIOWA came alongside. Other tugs followed. An attempt was made to tow the MORGAN over to where the GOOSEBERRY breakwater was being formed and sink her there, but the MORGAN, half sunk in a watery grave, refused to budge. The Navy declared the ship a derelict and the master of the MORGAN, making this last entry into the ship's log, turned her over to the Navy for "such disposition as they see fit."

The Army stevedores were taken ashore and shortly before noon on June 11, the MORGAN was abandoned. The crew was taken aboard the KIOWA. They were going to transfer to an LS bound for England but the Navy, fearing the MORGAN might capsize

on the high tide, requested the master to reboard his vessel with a skeleton crew and man the pumps in the engine room overnight. Accordingly the master and eleven volunteers reboarded the MORGAN. The following evening they were taken off again by the KIOWA. When they last saw the MORGAN, she still had her bow above water but later she was reported sunk.

The CHARLES MORGAN was operated for the WSA by the United Fruit Company. The master, Captain William Adams, of New Orleans, and the eleven members of the skeleton crew all received the Merchant Marine Meritorious Service Medal for manning the pumps "to keep the engine room dry and make possible the salvaging of valuable stores and equipment."

The WSA did not lose another ship for more than 2 weeks after the MORGAN went down. Supply ships shuttled back and forth across the English Channel with the regularity of ferry boats on an American river. German planes, discouraged by day, came over mostly at night. They directed their main effort against the shipping lying offshore rather than the beaches. They could not hope for many lucky bomb hits like the one on the MORGAN, so instead of dropping bombs or launching torpedoes, they sped across the transport area sowing mines. With so much shipping concentrated off Normandy, the Germans reasoned all our vessels could not avoid hitting mines no matter how hard our minesweepers worked. German logic like the German Army, was in retreat. Nevertheless, mines accounted for another Liberty ship.

This time the scene shifts to Juno Beach in the British sector. The CHARLES W. ELLIOTT was one of twenty-four Liberty ships turned over by the WSA to the British to help our Allies in the movement of their invasion supplies. On June 28 the ELLIOTT had just delivered a British war cargo and was moving away from the beach empty except for

1,800 tons of slag and dirt ballast, and about 500 gallons of gasoline in tins piled on the deck between number 2 and 3 hatches.

In a direct line ahead of the ELLIOTT were five other vessels all heading seawards at about 4 knots to form a convoy and return to England. They were about 4 miles off Juno Beach.

Enemy planes had sown mines frequently in that area. In fact, a mine laying flight had been reported only the night before. Soon after this flight a small British vessel had struck a mine and gone down in 40 seconds. The ELLIOTT was in approximately the same spot where this disaster had occurred at 10 minutes to 6 the following morning. The area had been swept but another mine still lurked below the surface, and it had the ELLIOTT's name on it.

The five vessels directly ahead of the ELLIOTT all passed over the area without incident. The ELLIOTT had five lookouts on duty situated forward, aft, and on the bridge. The master, chief officer, helmsman, and a signal man were on the flying bridge. The weather was clear, sea was smooth, visibility was good, but nobody on board saw a thing to excite suspicion. At 10 minutes to 6 a violent explosion occurred under the after end of number 3 hatch. The entire ship was lifted up and shaken violently. Three seconds later the ship was rocked by another terrific explosion under the stern.

The ELLIOTT was in great danger of breaking into three pieces. Cracks 8 inches wide ran down both sides of the vessel from the top deck to the waterline, a few feet forward of the midships house. There was another severe break just aft of number 5 hatch. Hatch covers, fragments of steel, and ballast mixed with water were hurled

hundreds of feet into the air. Some of the debris rained down on the stricken vessel, one hatch cover striking a boat davit and wrecking it.

Damage within the vessel was equally extensive. Steam lines were broken, crews' quarters were wrecked, and a dynamo in the engine room was thrown off its platform putting the lights out. The engines were secured immediately and the vessel stopped. She began settling rapidly by the stern.

The ELLIOTT had a crew of 72, including 42 merchant seamen and 30 Navy gunners in the armed guard. Miraculously, all survived although 2 merchant seamen and 2 sailors were injured. The four casualties were placed aboard a first-aid boat, which came alongside immediately after the explosion. Shortly after 6 the master ordered the vessel abandoned by all hands. The ELLIOTT was towed to deeper water by salvage tugs where she sank. Survivors stated that they believed the ELLIOTT ran into two mines and also that the ammunition locker in number 5 'tween decks exploded.

Chapter VIII

JUNE 29....

The WSA was not faring too badly in the cross-Channel operation. By D plus 22, hundreds of voyages had been made to the beaches; but only two Liberty ships had been sunk by the enemy, and a third that was damaged already was repairing in a British shipyard. The next day, June 29, however, the Germans made up for this fortuitous neglect.

That morning 11 Liberty ships including the H.G. BLASDELL, JAMES A. FARRELL, and EDWARD M. HOUSE, pulled out of Southampton loaded with vehicles and troops en route to Normandy. They met another group of vessels out of Falmouth, one of these being the JOHN A. TREUTLEN. The 2 groups formed a single convoy, lining up in 2 columns of about 10 vessels each. The BLASDELL, FARRELL, HOUSE, and TREUTLEN were near the head of the port column. Some of these ships had already made 2 runs across the channel since D-day, and the trip was becoming "routine."

The convoy moved along at 7 or 8 knots, not zigzagging, but continually altering course so as to remain within the swept portion of the minefields. The sea was moderate but roughened later. Weather was hazy with a slight breeze from port. Visibility was poor. Off their stern was a number of LSTs. Buoy tenders and patrol craft were nearby, other ships were coming and going. The Channel, as usual, was full of ships.

The FARRELL and TREUTLEN were bound for Omaha Beach, the BLASDELL and HOUSE had cargoes for Utah. Not many hours out of Southampton, when the

convoy was approximately 30 miles off St. Catherine's Point, England, the 4 vessels were rocked by a quick succession of crippling explosions which prevented all but one from reaching their destination. They literally were hit like clay pigeons in a shooting gallery. The first was hit at about 3:30 in the afternoon. Within 7 minutes all four had been blasted, hulls were torn above and below the waterline, engines disabled, 80 men killed and many more wounded.

It is not clear whether the vessels ran afoul of a minefield or were hit by torpedoes. Ship captains and other officers differed in their reports and were not quite sure where to lay the blame. U.S. Navy reports on three of the vessels were equally indeterminate, stating the ships could have been "mined or torpedoed." The British Admiralty Minesweeping Report, however, covering the period when the vessels were casualties, does not carry their names as having been mined.

An investigation conducted by the Royal Navy in Southampton indicates the vessels may have been struck by acoustic torpedoes. This is somewhat substantiated in the cases of the BLASDELL, FARRELL and TREUTLEN, all of which were struck aft in the vicinity of number 5 hold to which vicinity acoustic torpedoes may have been attracted by the noise of the propeller. The HOUSE was struck forward.

The reports of the masters and officers conflict slightly as to when their respective vessels were hit. The U.S. Navy reports also are at variance. Most probably the first one hit was the H.G. BLASDELL, the second ship in the port column. The other vessels were following immediately behind.

By some tragic circumstance, deaths and injuries were devastatingly high aboard the BLASDELL but relatively slight aboard the other ships. Seventy-six soldiers lost their

lives on the BLASDELL, four on the FARRELL, and none on the other two vessels. Casualties were heavy among the Army personnel, but merchant seamen and Navy gunners escaped almost unharmed. This was due to the fact that three of the vessels were struck in, or near, number 5 hold, which, in the case of two vessels, had been converted into a troop compartment.

The BLASDELL left Southampton with 509 men aboard, including 45 merchant seamen, 28 Navy gunners, and 436 troops. She was hit on the port side between number 5 lower hold and the stern frame with such force that a 10-foot section of the hull was blown inward and upward beneath the 'tween decks. Approximately 54 percent of the troops aboard were either killed or injured and parts of human bodies were strewn all over the ship. There were no casualties among the merchant crew or Navy gunners.

The stern section of the BLASDELL dropped several feet so that the after gun platform was partially submerged, she lost speed and would not answer the helm. Number 5 hold and the engine room flooded so rapidly that in a matter of minutes the engine room crew were forced to abandon their stations. The explosion set fire to the gasoline in the vehicles stowed in lower number 5 hold but this was quickly extinguished by the crew. The vessel was dead in the water and drifting towards a suspected minefield. To hold her the anchor was released.

A British corvette and buoy tender came alongside and took off many of the wounded. Some of the dead, more wounded, and the rest of the troops were taken aboard a passing LST while part of the crew transferred to another LST. A skeleton crew remained aboard while the BLASDELL was towed back to Southampton by WSA tugs. The next day she was so far down at the stern that she was run aground bow first at Netley Beach near Southampton.

The BLASDELL was in sorry shape. Divers found that the stern assembly had been blown away along with the rudder and propeller. The after end of the hull had a 30 degrees sag. Repairs would keep her in dry dock at least 6 months. Army cargo was slowly and carefully discharged but all could not be unloaded because there was danger of the vessel breaking in two or three pieces. On July 25, she was declared a "constructive total loss" and the following October Vice Admiral Emory S. Land, War Shipping Administrator, authorized the WSA in London to dispose of the hulk as scrap.

The FARRELL evidently was closer because a severe concussion was felt aboard her just as the explosion at the BLASDELL's stern threw a column of water high in the air. At the same time lookouts aboard the FARRELL saw a smaller geyser of water one and a half cable lengths to starboard of the BLASDELL.

The FARRELL altered her course 16 degrees to maneuver around the BLASDELL and the estimated location of this strange geyser, but a moment later a muffled roar at the starboard quarter put the FARRELL out of commission. The explosion tore a larger hole in the starboard hull below the waterline near the after end of number 5 hold. The hold and the shaft alley flooded rapidly, about 20 feet of water poured into number 3 hold, and there was partial flooding of the engine room and number 4 hold. The engine faltered right after the explosion and then raced violently because the propeller had been blown off.

The FARRELL was carrying 320 troops in addition to a merchant crew of 42 merchant seamen and 29 Navy gunners. Four soldiers were killed and 45 injured in number 5 hold, when the hatch cover fell in on them and their standee bunks collapsed. One merchant seaman was injured.

Casualties were removed to an LST which came by soon after the explosion. About an hour later the captain called over the loudspeaker for volunteers for a skeleton crew to stay aboard. The loudspeaker system was said to be still in working order, but later it was reported the captain ordered all hands by word of mouth to abandon ship. The word did not get around fast enough and three crew members were almost left behind when Army troops, Navy gun crew, and merchant crew transferred to the LST about 2 hours after the explosion. By then the FARRELL was drifting helplessly with her fantail awash.

The survivors were landed at Portland, England, that evening and from there were taken to Bournemouth, where the Recruitment and Manning Organization of the WSA had established a hostel for merchant seamen. Meanwhile a British tug had taken the FARRELL in tow and brought her into Southampton. The WSA port representative in Southampton and the master of the FARRELL ordered the crew back aboard. They learned to their great dismay that clothing and personal effects had been spirited away during their 24-hour absence. The tendency was to blame the crew of the rescuing tug. The chief engineer attested that all he had been able to save was "a uniform, a white shirt and a pair of shoes."

The jeeps, half-tracks, and other Army equipment which the FARRELL had been unable to deliver to Normandy were unloaded. She was stripped of all salvageable gear and then she, too, was run aground at Netley Beach.

The disabling of the other two vessels makes pleasanter reading. In the case of the TREUTLEN no lives were lost; in the case of the HOUSE not even the ship was lost.

The TREUTLEN had no troops in number 5 hold or anywhere else aboard when she was struck with such force that almost the entire port side of that hold was torn open. One hole running fore and aft was 15 feet long and 6 feet wide, another hole running up and down was 16 feet long and 4 feet wide.

The sea pouring through these gaps, filled number 5 hold and partially flooded two other holds. The engine room remained dry but steam was cut off because the captain had fears the bulkhead might collapse.

A Norwegian corvette drew alongside 45 minutes later with orders received from the WSA in Southampton that all hands were to be removed from the TREUTLEN except a skeleton crew "for security of the vessel in case she would stand towing to Portsmouth." The entire Navy armed guard and most of the merchant crew transferred to the corvette and to an LST. The captain remained aboard with 16 officers and men. The port anchor was let go with 75 fathoms of chain to keep the TREUTLEN from drifting into a minefield.

Three hours later a WSA tug took the helpless vessel in tow. The TREUTLEN could not be steered and there were strong cross currents making progress difficult. She was brought into shallow water the following morning. The Army cargo was slowly discharged and during part of the unloading operation she was tied up at a dock in Southampton. Salvageable gear and equipment were taken off the vessel and then the bare hulk was beached at Netley, along with the BLASDELL and the FARRELL.

The skipper of the HOUSE, the last of these four ill-fated ships, was a young fellow of 28. He was promoted to master on the same day the vessel was delivered into service. She was his first command.

They made one round voyage together and then took 6,000 tons of Army supplies and 3,000 tons of explosives to Liverpool, arriving there May 5, 1944. D-day was getting close and the HOUSE was specially fitted out to shuttle military vehicles across the Channel for the invasion. She made a trip to Normandy on June 9, another on the 19th, and was starting out on her third trip on the 29th when the war broke up this routine.

The skipper ordered the engines stopped when the vessel ahead of him was hit (probably the BLASDELL). Four minutes later he ordered the ship to proceed at slow speed. The HOUSE nosed herself into trouble. The screw hadn't turned around a dozen times before the vessel hit what her master believes was a mine, "which exploded directly beneath the stern." In this respect the HOUSE differed from the other three vessels, all of which were hit in the stern.

The forepeak and number 1 double bottom tanks were torn open, bulkheads buckled and plating in the vicinity was bulged and creased. Number 1 lower hold was flooded with sea water and fuel oil from the tank, damaging Army vehicles and other equipment stowed there.

Engines were stopped briefly after the explosion to determine the extent of the damage. It was found the HOUSE could proceed under her own power. Her draft before the damage was 14 1/2 feet forward and 19 feet aft. After the damage she was down an extra 6 inches at the bow. That was all.

The crew of 42 merchant seamen and 28 Navy gunners were at battle stations at the time of the explosion. There also were 520 troops aboard. The concussion knocked

a number of men down and 2 merchant seamen were injured when thrown against gun emplacements.

The HOUSE continued on her way and that evening was discharging cargo and disembarking troops off Utah Beach. Two days later she was back in Southampton. On July 11 she went into drydock at Tyne for extensive repairs. She needed a new stem casting unobtainable in the United Kingdom. It was shipped from the United States and reached the repair yard on September 7. Work on the HOUSE was completed on October 31 and a few days later the vessel sailed for the United States.

It would be hard to determine exactly what caused the explosion which sent three of the Liberty ships to the scrap heap and the fourth to a repair yard. The question is not solely whether they were mined or torpedoed. They may not all have come to grief through the same lethal agency. The explosions were not all alike, nor did they all have same characteristics.

In the case of the FARRELL, the explosion threw up a column of water and black smoke, the BLASDELL's explosion threw up water and no smoke, and when the HOUSE was hit, the column of water was mixed with shells and gravel, apparently from the bottom.

Survivors aboard the BLASDELL saw no smoke but detected "strong cordite fumes." FARRELL survivors observed no flame but saw smoke and smelled burning powder. The HOUSE reported no evidence of smoke, flame or odor.

Of particular interest were some strange fragments of metal found on two of the ships in the vicinity of the explosions. The second officer of the BLASDELL noticed the

fragments in the number 5 'tween decks. They were an inch or so thick, 6 inches to 3 or 4 feet long, black in color and very smooth. He found no markings on them and was unable to identify them as parts of the ship.

The armed guard officer of the HOUSE found fragments of steel, copper, and brass on the forepeak and in the forward gun turret. They were mostly small pieces, 3 and 4 inches long. The brass fragments were one-sixteenth of an inch thick and the copper was "paper-thin." There was one cone-shaped piece of brass 3 to 4 inches in diameter and threaded at the bottom.

None of the four Liberty ships reported sighting a mine, submarine, torpedo, or torpedo wake. The ships offered no counter-offensive since no target was observed. The only evidence of a forewarning came from three soldiers in number 1 hold of the HOUSE. They claimed to have heard a "high-pitched whirring noise" of about 3 or 4 seconds duration immediately before the explosion.

The 12 reports submitted by merchant marine masters and officers, and 3 U.S. Navy summaries of survivors' statements named the causes of the explosion as follows: 8 said mine or torpedo, 3 reported torpedo, 2 reported mines, and 2 simply said, "violent explosion."

There can be no argument with that. It was.

Chapter IX

SHIPS FOR SHAEF

For many weeks after D-day the English Channel was the busiest stretch of water in the world. A merchant seaman said it "looked like the Liberty ships are invading Europe." These 10,000-tonners loomed large in the build-up fleet but hundreds of other vessels also were employed in bringing men and materials to the beachheads. They ranged from 300-ton coasters to big troop carriers. To provide all these ships, Allied leaders had long been estimating how many supply vessels the Supreme Commander would need, and the WSA had been planning and replanning its allocations.

The first estimates were given at the SEXTANT Conference in Cairo in December 1943. President Roosevelt stopped off there for a meeting with Prime Minister Churchill while flying home from the Teheran Conference. SEXTANT was the third meeting in that year between the American and British heads of government. At the earlier TRIDENT Conference in Washington in May, the invasion date was still undetermined. At QUADRANT in Quebec the following August, proposals for invading in the spring of 1944 were approved. Then Roosevelt and Churchill laid their long-awaited "second front" plans before Stalin at Teheran and went on to Cairo where their SEXTANT Conference polished up the details.

The Deputy Administrator and other WSA officials accompanied President Roosevelt to Cairo. Although the general shipping plans for the invasion had been approved at QUADRANT, it was necessary at SEXTANT to determine, with some exactitude, the size of the cargo fleet needed to execute the plans, and the means by

which the shipping resources of the United States and Britain could meet the requirements.

The shipping requirements of the invasion were at once enormous and complex. Mountains of U.S. Army supplies were growing in England; a powerful amphibious force was forming there. What was the best and quickest way of moving these men and supplies from Britain to the Continent? How many ships were needed so that the huge invading force could strike at the hour chosen? What kinds of ships were needed? Some would carry only military vehicles such as jeeps, tanks, and trucks; others would carry military stores such as ammunition, rations, gasoline, and engineer and medical supplies. It ran up to a total of 700,00 different kinds of items, the U.S. Army announced. Large ships were needed, but small vessels also were required to make use of shallow ports on the Norman coast. Military supplies which were not in the British Isles would have to be brought from the United States. On this basis, the ships required for the invasion fell into two main categories:

1. "Shuttle service" ships to move supplies from the British base to the Continent.
2. "Supply line" ships to move supplies from the United States to the Continent.

Allocations made at SEXTANT for the first category divided the shuttle service into three groups, (a) large ships for moving military vehicles, (b) large ships for moving military stores, and (c) coastal vessels.

The vessels for moving military vehicles were of great strategic importance. The Battle of Europe was to be a war of movement. After it began American forces repeatedly were able to exploit a break-through the German lines with a rapid advance forward.

They owed this mobility to the thousands of vehicles delivered to the far shore by a special fleet of "vehicle ships" shuttling back and forth between Britain and France.

The vehicle ships were all specially ballasted and fitted for their invasion task. The holds were planked or "flatted" over to cover the shaft tunnel in numbers 4 and 5 holds, and to permit the expeditious stowage of jeeps, half-tracks, ammunition carriers, and other motorized equipment on a level surface. The vessels also were specially fitted above decks, one boom at each hatch being re-rigged with special tackle for the loading and unloading of vehicles. One hold was equipped with detachable accommodations for the drivers and crews of the vehicles aboard and for other troops. Although their primary function was shuttling military vehicles, they also were important to the troop movement, each vessel carrying 400 to 600 troops on each trip to the beaches.

The planners at SEXTANT were hopeful that the vast amount of tanks, trucks and jeeps stockpiled in Britain during the preceding 2 years could be shuttled across to France in 90 days. One hundred and sixty vehicle ships were allocated for the first 30 days, after which the allocation dropped to 100 and then to 70 vessels. Naval landing vessels such as LST's and LCT's also were to be used for the vehicles lift. In fact, a complete withdrawal of merchant-type vehicle ships 2 or 3 months after D-day was looked to if the ferrying capacity of naval craft was adequate by then. But a few weeks after the SEXTANT Conference the Allied Naval Commander, Expeditionary Force (ANCXF) declared this to be an unlikely prospect, foreshadowing an increase in the WSA allocation of vehicle ships rather than the opposite.

This was largely due to modifications in the original invasion plan, to an enlargement of the scope of the operation, and an acceleration of the rate of the build-up. There also was a sharp demand for every available LST and LCT in the Mediterranean

and Pacific theaters as well as for the Normandy operations. Hence, a shortage of these vessels on hand in time for the invasion loomed up early in 1944, and the WSA had to make up the deficit with more cargo ships for the vehicle movement. Accordingly, the SEXTANT allocation for the first 30 days was raised from 160 to 224 vessels. The Combined Chiefs of Staff approved the increase in February and buttressed it in April with additional increases. The following table shows the allocation at the SEXTANT Conference and the increases subsequently authorized.

	First 30 <u>Days</u>	Second 30 <u>Days</u>	Third 30 <u>Days</u>	D Plus 90 <u>Onwards</u>
SEXTANT	160	100	70	None
Combined Chiefs of Staff - Feb.	224	140	70	None
Combined Chiefs of Staff - Apr.	224	140	70	70

These vessels were to serve both the First U.S. Army and the Second British Army which had been combined into the Twenty First Army Group for the Normandy onslaught. They were to be provided by the WSA and the British Ministry of War Transport on a 50-50 basis, each shipping agency allocating 112 vessels to make up the 224 needed for the first 30 days. The WSA actually allocated 136 vehicle ships; 112 to the U.S. Army and 24 to the British. The extra 24 vessels were allocated to compensate the British for the heavy contribution they were making of coastal vessels to carry stores for both armies.

The vehicle ships started leaving the United States a few at a time early in March and the last group -- 6 in number -- was en route by May 8. The work of preparing these vessels for motor transport was done on both sides of the Atlantic, each ship requiring 10 to 14 days work. Ship repair and conversion yards were working to the limit of their manpower and facilities at that time, and some concern was felt in April and May whether the vehicle ships would be ready on time. But the WSA was able to make its full quota of 136 vehicle ships available in the United Kingdom well before the D-day deadline.

It was a sizable block of ships to "freeze" in the English Channel for the explicit purpose of shuttling vehicles across to France. Yet even this large fleet of vehicle ships was to prove unequal to the task after the shooting started, as shall be seen later on.

Allocating large ships for the stores movement was a problem of another sort. At SEXTANT it was decided 625,000 deadweight tons of coastal shipping would suffice for the cross-Channel movement of military stores during the first 30 days of the invasion. Most of these small tonnage ships were British coasters, and it was understood they could not stay out of their normal operations on the British Isles without serious detriment to Britain's internal economy and war-making capacity. They were, in short, as important to the United Kingdom as railways. Therefore, after D plus 30, all but 100,000 tons of coasters were to be replaced by oceangoing ships. This did not seem to promise an adequate flow of supplies, and late in February the British were examining the possible repercussions on their economic and industrial life if 250,000 tons of coastal shipping were kept in military service after the first 30 to 40 days. But even though more coastal tonnage was retained, the need for more large store ships also became evident and the allocations for stores grew like Jack's beanstalk. On April 21 the WSA was advised that SHAEF had requested 36 oceangoing ships to lift stores in addition to the 625,000 tons

of coasters. Within the next 3 weeks the Combined Military Transportation Committee "recommended," the Continental Movements Shipping Committee "confirmed," and the Combined Chiefs of Staff "approved" the allocation not of 36 but of 48 big freighters to strengthen the stores lift. Here was plainly a case where too many cooks improved the broth. And they made it long as well as strong. The 48 big vessels were needed early in the invasion, some to start loading before D-day. In order to handle the stores lift later on when the coaster tonnage would be reduced, the Combined Chiefs of Staff approved an allocation of 126 large ships.

The SEXTANT allocation for stores, and the additions approved by the Combined Chiefs of Staff in April and May, are indicated in the table below, Figures for coasters represent deadweight tons.

	<u>COASTERS</u>		<u>OCEANGOING SHIPS</u>	
	D-day to	D plus 30	D plus 11	D plus 42
	<u>D plus 30</u>	<u>Onwards</u>	<u>Onwards</u>	<u>Onwards</u>
SEXTANT	625,000	100,000	None	??
Combined Chiefs				
April - May	625,000	250,000	48 ships	126 ships

Responsibility for providing the extra stores vessels was not divided equally between the WSA and the British Ministry of War Transport as in the case of the vehicle ships. Instead, each shipping agency was required to make available the number of vessels actually needed to move the stores of its respective army. British requirements

were slightly larger than American. In order to defray the addition of the 48 oceangoing stores vessels needed early in the invasion, the WSA allocated 20 to the U.S. Army, and the British provided 28 for their own forces.

These last-minute discussions and decisions had carried the planners past the middle of May. Time was getting short and the WSA had to act fast. The extra twenty stores ships had to be made available, berths found for them, and the vessels loaded so they could arrive at the far shore by D plus 11 at the latest. The WSA allocated the vessels on May 17, only 1 month prior to that date.

Some discussion arose between the WSA and the British as to how they should apportion the 126 oceangoing stores vessels required for the stores lift after D plus 42. The WSA was inclined at first to defer any decision on future commitments until more was known about how effectively the 20 stores ships allocated in May were being employed. The WSA also felt that determining how many vessels would be available to lift stores could be estimated better in July, when the armed forces would begin releasing some of the 224 vehicle ships allocated to them for the first 30 days of the invasion.

These precautions were only wise. It was no use trying to predict the unpredictable. Even the most prescient strategist could hardly foretell with absolute accuracy how many vessels for all purposes would be needed for an invasion that was months or weeks away. The SEXTANT allocations had appeared adequate when made. Even so the Combined Chiefs of Staff found good reason to increase them in the spring of 1944. Then, in spite of the increases, the actual invasion brought even greater demand for shipping. Moreover, the WSA had to satisfy the needs of a global war. The Normandy operation not only was absorbing a huge amount of tonnage but was tying it up for a long while. As early as April, the WSA found that it would be falling short of its

overall requirements by 30 or 40 sailings a month in May, June and July. The WSA, therefore, had good reason to await developments and not make rash commitments in May for the stores lift in July.

The British, however, held that the WSA should provide 66 stores ships, while they allocated 60 to make up the 126 needed in July. This was suggested in view of the large coaster contribution made by the British. The WSA disagreed. It had allocated 24 extra vehicle ships as compensation for the coasters and preferred that the WSA and the British Ministry of War Transport provide stores vessels in accordance with the needs of their respective armies. The U.S. Army required and requested 60 vessels for the stores lift in July and that was all the WSA agreed to allocate. Hence, it fell upon the British to provide the 66 stores vessels required by their own invasion troops.

But whether the British would provide 66 and the WSA 60 or vice versa was to prove of little consequence. Even these last minute plans and allocations were swept away by the fury of the actual invasion which, before it was spent itself months after the original landings, called for shipping aid beyond all expectations from the United States and Britain alike.

The question of allocating Liberty ships or any oceangoing vessel for the stores lift impinges on the coaster problem. These smaller vessels were the third and last group in the shuttle service. They were peculiar to the success of the invasion. We remember the significant part played by small vessels in rescuing the British at Dunkerque. Another gallant role awaited them at Normandy. Planning was begun early in 1942; it was an obscure but vital activity in the gigantic marshaling of cargo ships of every kind and description for the invasion.

On the last day of 1943 Lord Leathers, British member of the Combined Shipping Adjustment Board in London, wrote to the WSA about some 2,800-ton Baltic type coastal vessels the U.S. Maritime Commission was building. He said, "I want all or nearly all of these for OVERLORD... I cannot emphasize too strongly how desperate is the need for these vessels... this requirement, wholly operational as you know, must have your support to the utmost."

Coasters were the forgotten boy of the merchant marine family. It is not surprising these little fellows escaped notice when so many big oceangoing ships were splashing onto the water during the war years. But the Maritime Commission built 385 coasters aggregating 1,600,000 deadweight tons between 1942 and 1945. Included were 314 dry cargo vessels, 54 coastal tankers and 17 refrigerated coasters. The first Baltic types came into production in November 1942. Five were built that year and 31 in 1943. All 36 were turned over to the British Ministry of War Transport to be manned and operated by them. Another 14 coasters contracted for by the Maritime Commission were turned over to the U.S. Navy along with the shipyard building them.

Early in 1944 the Maritime Commission had 33 more of the Baltic types under construction. About half were scheduled for delivery by D-day. Some months before, Lord Leathers had requested 150 coasters from the WSA. He needed vessels ranging in size from 1,500 to 3,000 tons. The United States had neither the vessels nor the shipyard capacity to build them on top of the Maritime Commission's then current small vessel program which included tugs, barges, and dredges as well as coastal vessels. Lord Leathers fell back upon the 33 Baltic types then building and put in a bid for them at the SEXTANT Conference. His letter to the WSA on December 31, 1943, requesting "utmost" support therefore served as a reminder.

Such strong interest in 33 coastal vessels may seem like small potatoes. Their aggregate cargo capacity was only 92,400 deadweight tons, slightly less than 9 Liberty ships. But if Lord Leathers shed customary British restraint and termed the need for them "desperate," he did so for definite reasons.

It was planned to use coasters extensively in the artificial ports to be built off the landing beaches. Coasters also were to make use of small ports on the French coast too shallow to admit oceangoing ships. Thirdly, major seaports captured in damaged condition could accommodate coasters until docks and harbors had been cleared for admittance of big vessels. Finally, an "express reserve" was planned to rush emergency supplies to the beaches. Coasters filled the bill since they could be quickly loaded in England and quickly unloaded in France.

For these purposes extreme size and deadweight were no advantage. Small vessels were needed in the same sense that you needed a nickel to get through a subway turnstile even though you had a pocket full of quarters. Coasters were made ready for a variety of uses. Some became small editions of vehicle ships, others were fitted for the exclusive carriage of stores, ammunition, motor oil, gasoline, or water. The cargo handling gear of many was strengthened.

The evident need for coasters, however, did not promise automatic fulfillment. Small cargo ships of less than 5,000 tons deadweight were in global demand. The Army and Navy found them invaluable for the heavy inter-island traffic in the Pacific. Coastal tankers were sorely needed for refueling the Navy's fighting ships at scores of anchorages and atolls. Commercially, coasters were needed for essential Caribbean services, in the New England coal trade, and for obtaining vital bauxite which was loaded in ports up shallow South American rivers.

As for the United Kingdom, the importance of coasters was inestimable. They were an integral part of Britain's transport system. A heavy extra burden was thrown upon British railways when over 100 coasters were withdrawn for use in the Mediterranean theater and 31 were allocated to General MacArthur in the South Pacific. Altogether more than one million deadweight tons of British coasters were in military, naval or air force service throughout the world. Another extra load fell upon British railways when outloadings and other preparations for the invasion were at their height. There was a limit to what Britain's land transportation could absorb. Besides, certain areas in the British Isles were not served by railways but were dependent entirely on coasters for coal and other essential materials. Prolonged severance of full coaster service might seriously retard British war industries. Small wonder Lord Leathers was importunate. Coasters were vital not only to the invasion but to the British base as well.

The WSA's response to Lord Leathers' urgent request must have disappointed him. After reviewing the Baltic coaster situation, the Deputy Administrator of the WSA saw that only 5 of the 33 vessels would be delivered in February and ready for service in the English Channel by D-day. Two of these had been allocated "long since" to Free Poland and 3 to the U.S. Army for use in the southwest Pacific, but the WSA found means to have them placed at the disposal of the British Ministry of War Transport instead. On the other hand, the WSA had 5 vessels of World War I vintage in the bauxite trade which could be made available to the British instead of the Baltic coasters if Lord Leathers preferred.

Lord Leathers promptly made it known that he preferred the Baltic types and more of them. He suggested that coasters delivered in March need not be considered too late for the Normandy operation, since 625,000 deadweight tons were needed at the outset

and a considerable amount thereafter "for maintenance." He also anticipated serious trouble with Britain's internal transport during the summer and sought assistance during this "period of strain."

The British also were in dire need of coastal tankers. They foresaw a deficit of 100,000 deadweight tons of these vessels and late in January 1944 indicated they would welcome more than "only" one coastal tanker which the WSA thus far had promised for the invasion. The Deputy Administrator lay the whole problem before the WSA's Director of Allocations with the question, "Have we been able to pry anything more loose?"

The WSA found that it could. By the time the invasion fleet was steaming towards Normandy, 20 coastal tankers had been turned over to the British as well as 40 Baltic type dry cargo coasters, including the 36 turned over to them in 1942-43. Lastly, tonnage in service was turned to, and a number of old coasters were taken out of their drudge runs and nominated for the warrior's role of invading Hitler's Europe. For example, 2 were taken out of the Great Lakes, 3 were taken out of the New England coal trade, and 4 were diverted from the bauxite service.

As a matter of fact, American and British shipping authorities scoured the seas for coaster tonnage with piratical zeal in the spring of 1944. Every possible recruit for invasion duty was scrutinized, no matter on what obscure sea lane the vessel might have been dodging torpedoes. Stubby old veterans of 7 and 8 knots as well as newer, faster types were screened for the cross-Channel assignment. They were uncovered everywhere; carrying timber and pulpwood into Britain, maintaining coal bunker supplies in Canada, lifting strategic ores out of western Mediterranean ports, or sugar out of the Caribbean.

In all, 87 "possibles" were found, a motley fleet flying the flags of the United States, Britain, Canada, Norway, Greece, the Netherlands, Yugoslavia, Free Poland and other United Nations. More than half were either owned or controlled by the WSA, 27 being American-flag. The WSA also had 1 Honduran, 1 Norwegian, 1 Panamanian and 11 Dutch ships in its Caribbean service, and 4 other Panamanian vessels in the bauxite movement.

Not all the 87 coasters could be used. Some were not suitable for cross-Channel operations. Others could not be diverted without disrupting the essential work in which they were engaged. In some cases oceangoing vessels were re-routed to provide the service vacated by invasion-bound coasters. This substitution, though uneconomical, was made wherever possible, although it was not always feasible, as in the case of coasters touching shallow draft ports where large ships cannot berth.

The contrast is interesting, however. The United States was in the midst of the most stupendous shipbuilding program in history, yet demands upon the WSA were such that it could not refrain from searching in remote corners of the globe for a few battered little freighters that could carry a couple of thousand tons or so between their ribs.

The results were no less interesting. Coasters were either built or found for the invasion and for Britain's transportation system as well. While a heavy burden fell upon the British, the WSA's contribution was by no means insignificant. The division of shipping allocations for the Normandy invasion as agreed between the WSA and the British Ministry of War Transport, makes it appear that the 625,000 deadweight tons of coasters required at the outset of the invasion were a British contribution. This is not

strictly accurate, the appearance of an exclusive British contribution being assumed for the purpose of making allocations and to simplify score keeping.

Both shipping agencies were hard put meeting a demand that tied up such a large amount of coaster tonnage for several weeks. The decision of the Combined Chiefs of Staff to retain 250,000 tons instead of 100,000 tons superimposed a seemingly impossible demand. The WSA and the British Ministry of War Transport felt as if they were scraping a barrel out of which the bottom had been kicked long ago.

The British necessarily got along with fewer coasters. But there are limits to self-denial and they called upon the WSA to take "exceptional measures," either by providing vessels for the operation itself or as replacements for the coasters Britain was releasing to SHAEF. The WSA's "physical" contribution in old coasters amounted to 47,500 deadweight tons. Another 20,000 tons of small vessels were assigned to routes in the western hemisphere, replacing British tonnage withdrawn for the invasion. The WSA also took on a number of other British and Canadian services so that directly or indirectly the burden of providing 150,000 tons of the 250,000 required after D plus 30 or 40 was assumed by the United States. In addition the British had the use of the 40 Baltic types and 20 coastal tankers mentioned heretofore, these vessels having an aggregate tonnage of more than 140,000 tons deadweight.

American and British coaster resources were stretched pretty thin by the time D-day arrived. Since these vessels were not materializing out of thin air, the WSA, perforce, had turned to the realm of operations, dividing more work among the same amount of ships although at some cost of time. By such means the armed forces were assured the amount of coasting tonnage they required for the invasion while essential

services affected by the diversion of small vessels were resuscitated by the use of oceangoing or other tonnage.

Besides the allocation of 136 vehicle ships, 20 Liberty ships for the stores movement, and the coaster contribution indicated just above, the WSA heard and responded to calls for the other ships needed for the Normandy invasion.

Five transports were allocated to the U.S. Army to speed the troop movement across the Channel, and the WSA also converted 5 Liberty ships into troop carriers, each with a 585-passenger capacity, which were used as prisoner-of-war vessels. There were also the V4 tugs which were made available just before D-day. Finally, the 22 block ships, which made one trip across the Channel to be sunk off the beaches, were "allocations" of a permanent sort.

The foregoing totals up to approximately 270 vessels in the shuttle service linking Britain with the beaches. The WSA also provided a considerable number of vessels for the supply line from the United States. These ships, carrying war cargoes from American ports directly to France, were divided into two main groups; pre-stowed vessels and commodity loaded vessels.

Pre-stowed ships were vessels loaded in advance and held in a harbor or out-of-way anchorage until it was time for them to proceed to the far shore. So many supply ships had to be ready on D-day that the work of loading them was spread over a period of many weeks. Even so British port capacity was overstrained. When outloadings for the invasion reached their height, absorbing 30 percent of the United Kingdom's port capacity, the strain on berthings, cargo handling facilities, warehouses, supply depots and railways as well as on British civilian dock workers and U.S. Army port battalions

was greatly intensified. It was apparent the sea-borne invasion was too huge to emerge from British ports alone. Consequently Major General Frank Ross, Army Chief of Transportation in the European theater, suggested pre-stowing vessels in the United States which would be detained at anchorages in Britain until it was possible for them to proceed to France. The purpose was to avoid use of Britain's overworked ports during the critical invasion period. On March 3, the War Department authorized the procedure, and fifty-four vessels were pre-stowed in the United States. Eleven were loaded with ammunition and the remainder with military stores. They sailed from the United States at intervals in May, June and July and by the end of September all had been dispatched to the far shore and had discharged their cargoes.

Far more numerous were the ships sailing directly from the United States to the far shore and called commodity loaded ships. On them eventually fell the main burden of supplying our troops on the Continent. These were vessels loaded with only one kind of cargo or with supplies for a single branch of the Army, such as engineers, ordnance, and so forth. This method simplified distribution of supplies when they were delivered overseas, particularly under combat conditions.

Commodity loaders started sailing from the United States in May and by the end of September, approximately 400 had left our shores. They piled up in the English Channel in such tremendous numbers that unloading them became one of the invasion's major problems.

The shuttle service ships carried men and materials from Britain to the beaches, and hundreds of other cargo vessels were busy on the supply line from America to the beaches. They all were used in direct support of the invasion. At the same time the WSA had considerable shipping devoted to the carriage of U.S. Army cargoes and

essential British imports from the United States to Britain, lending indirect support to the invasion.

A large force of maintenance and service troops in the United Kingdom had to be supplied. Our Air Force relied on tankers to keep its planes in the air, and on dry cargo ships to deliver the bombs at the planes dropped on Germany. As the air offensive was intensified, bomb shipments were increased until they comprised 25 percent of all U.S. Army cargoes being delivered in England. Our bombers dealt the Germans a shattering blow, but without ships, every plane in Britain would have been grounded, fuel tanks and bomb bays would have been equally empty. Planes themselves were delivered by the hundreds to the British base as deck cargo on tankers, or in the holds of Liberty ships specially converted for that purpose. In the first 6 months of 1944 more than 750 sailings were made from the United States to Britain with U.S. Army cargo, an average of 125 a month.

Meanwhile the WSA was lending assistance to the British in the carriage of lend-lease, food, and other supplies, some of which were as strategically important as military cargoes. From 60 to 70 vessels a month were allocated by the WSA to move British imports in the months immediately preceding the invasion.

The growing mass of cargo ships converging on the British Isles until more than 500 WSA vessels of all types and categories were in British waters on D-day, represented the result of intensive planning and scheduling by the WSA. A dual responsibility had been dealt with. The needs of the Normandy invasion were satisfied, without endangering, at the same time, the movement of vital military supplies to the Mediterranean, to the Pacific, and to other theaters of operation.

Chapter X

THE SHUTTLE SERVICE

Southampton lies directly across the English channel from the Baie de la Seine and the invasion beaches. This famous port of call for luxury liners was not used extensively during the "blitz" early in the war. It would only have been another inviting target for German bombers. But more and more WSA vessels began discharging cargoes there in 1943, and by October the WSA's office in London had assigned a port representative to Southampton.

The port's proximity to France proved an advantage when D-day came. Southampton became the main loading port for that part of the shuttle service composed of vehicle ships. A general practice in the shuttle service was to have the same ships load the same type of cargo in the same port, since this specialization made for greater speed and efficiency. Stores ships sailed mostly out of the Bristol Channel but the movement of military vehicles came out of Southampton and a few smaller south coast of England ports.

The planning before the invasion had placed a large and splendid cargo fleet at General Eisenhower's disposal to shuttle the vehicles of this combined army. But even the 224 Liberty ships allocated for the first 30 days, and the considerable number of specially fitted coasters and naval landing ships and craft could not match the invasion's demands. By July 1, deliveries to American forces on the far shore were in arrears to the tune of 32,000 vehicles. The reasons for this were too numerous for comfort.

To begin with the tough beach battle at Omaha piled up a bottleneck of ships and the entire supply movement in that sector was held up. Second, turnaround of LST's was slower than expected, and they were not lifting their quota of vehicles. Third, LCT's were taken out of the vehicle movement entirely and used as lighters on the far shore to help unload the big supply ships, and a lot of them were knocked out by the enemy. Fourth, the capture of Cherbourg fell a week behind schedule and the prolonged battle for this seaport brought additional calls for vehicles. Finally, bad weather and rough surf hampered unloading operations, culminating in the violent storm of June 19 - 22 which brought unloading to a virtual standstill for three solid days and created as much havoc as the D-day beach battle.

The unexpected and near-disastrous storm was still lashing the beaches when SHAEF advised the Continental Movements and Shipping committee that vehicles sailing from Southampton would have to be increased from 12 to 17 a day, and that an extra "flight" of 17 vessels was needed as a reserve. Twenty more vehicle ships were urgently requested from the WSA to meet the emergency. With the additional ships, the Army felt that the undelivered vehicles could be cleared off in 3 or 4 weeks' time. The WSA promptly made 20 Liberty ships available to the Army from vessels already in England. This was on June 23, only 17 days since D-day. A week later the British Ministry of War Transport put 14 ships into the shuttle service to step up their own vehicle movement out of the Thames area.

General Eisenhower now had 258 vehicle ships. But the first 30 days were about over and he was supposed to be cutting down, not increasing the allocation. Instead the Supreme Commander had almost twice as many vehicle ships plowing back and forth across the English Channel as pre-invasion plans allowed him.

The WSA was getting uneasy. It had been assigning more and more ships to OVERLORD ever since SEXTANT, when it was hoped that a boost across the Channel from 160 vehicle ships would send the Allied armies rolling on to Berlin. It was time to wonder when the ship-devouring invasion would be sated. However pressing the need to supply the invaders with vehicles, ships also were required elsewhere. As a result of retaining extra vessels in the vehicle service, the number of ships available for sailing from the United States to Britain in August was reduced by 36 ships. On July 7, the Deputy Administrator warned the WSA in London that the demands of SHAEF, together with increasing retentions in the Mediterranean theater, were making the shipping situation in July and August "critically tight" and would weaken the supply line from the United States.

At this time the WSA had 181 August sailings from the United States to Britain scheduled for the U.S. Army. Fulfillment of this became impossible when the vehicle fleet geysered up to 258 vessels. The Combined Military Transportation Committee saw the seriousness of the situation and on July 12 drafted a pointed message to the Combined Chiefs of Staff, recommending that it be despatched to the Supreme Commander. The message approved the retention of 258 vessels in order to eliminate the deficits in the vehicle build-up but, as a consequence, warned General Eisenhower that:

... August sailings of War Shipping Administration cargo ships for your theater on U.S. Army account will be somewhat less than the 181 scheduled prior to these additional retentions. We mention this in order that your shipping people may be advised of the urgent necessity of releasing as many vessels as possible prior to D-60.

In other words, having failed to reduce the vehicle fleet at the expiration of 30 days, hope was held it might be accomplished at the end of 60 days. By then, according to the rather battered pre-invasion plan, only 70 vehicle ships were supposed to remain in the shuttle service: 38 WSA vessels working out of Southampton for the U.S. Army and 32 British ships working out of the Thames.

The WSA had allocated 156 or 60 percent of the vehicle ships and getting down to 38 was a long step. Soon after receiving the warning of a shipping shortage, Eisenhower reduced Southampton sailings from 17 to 14 a day. The WSA director for the United Kingdom and the Continent wasted no time and began immediate negotiations for the return of the 20 extra vehicle ships allocated to the Army after the great storm. Following these negotiations, the Army began releasing vehicle ships to the WSA late in July in batches of 10 or 15 every week or so. On August 11 the British returned 23 of the 24 vehicle ships allocated to them by the WSA. The other vessel had been sunk.

By the middle of August the vehicle movement was rapidly dropping off. Deficits had been made up, and SHAEF advised the Continental Movements and Shipping Committee that sailings out of Southampton were down to 5 a day. But the Army still held enough shipping for 10 sailings a day. An apparent surplus was retained because the Army needed some of the specially fitted vehicle ships to shuttle bulky engineer equipment across the Channel.

Army and WSA officials thoroughly understood each other's predicament. The former needed ships for the cross-Channel flow of supplies and the latter needed them to meet its manifold shipping schedules. The WSA director in the United Kingdom constantly was using Army authorities to release vessels from the shuttle service as soon

as they were not required so that sailings from the United States could be maintained. On August 17 he wrote to Washington, "I have the impression that they (Army) appreciate this and will try to go along with us."

Ninety days after D-day, the Army still had 62 vehicle ships in the Channel and not until the closing days of September did they get down to the required maximum of 38 vessels. The reduction was made some 6 weeks behind schedule, but that was only one of the things that made the Normandy invasion as unpredictable and gargantuan as it was. At the height of the shuttle service in the summer of 1944, the vehicle movement was utilizing almost 3 million deadweight tons of cargo ships, roughly the equivalent of America's entire active foreign trade fleet in June 1939.

It was fortunate the vehicle movement did not last on such a vast scale any longer than it did. The pace was beginning to tell on some of the crews. Many of them worked up to 72 hours at a stretch to give their ships a fast turnaround. The crew of the Liberty ship EDWARD M. HOUSE were on their third trip to Normandy in as many weeks when their ship was disabled by enemy action. Another Liberty ship made 8 round voyages in as many weeks. The ship first cleared a Bristol Channel port on June 5 with 500 troops aboard, and the holds filled with jeeps, trucks and artillery pieces. She spent several hectic days unloading, was slightly damaged in an air raid, and a few dents were left in the hull by shell fragments when a German shore battery got the bead on her. When the ship headed for Southampton on the night of June 11, the horizon astern glowed red and the sound of guns could be plainly heard, but the beach battle was dying out. The radio officer aboard reports, "Loading and making ready for the next trip to France was only a matter of 15 hours. This schedule was maintained over a period of eight weeks in which we made eight successive voyages."

Long before the 2 months were up the English Channel changed from a battlefield to a backwash. Nothing remained except to keep on hauling supplies "until everything we have in England is on the other side." After a few runs the crews and Army stevedores working the vehicle ships were able to turn them around with astonishing speed. Loading time in England was reduced to 6 hours. Ships would be presented for cargo at 10 in the morning and at 4 in the afternoon were loaded and ready to proceed to an assembly area, form convoy and steam across the Channel that night. By D plus 30 this was routine. By D plus 60 the vehicle movement was on the wane. And by then some of the crew members had had their fill of it. Shuttling back and forth on the dreary, changeless Channel run became an unbearable grind. They were physically tired and nerves wore thin. Seamen began missing ship in England for a few days rest "on the beach." As one U.S. Coast Guard officer put it, the merchant seamen were no longer "enthused." His report from London that "trouble is piling up" was transmitted to the WSA in Washington on the last day of July and states:

.... At the present time these vessels simply go back and forth on a sort of shuttle run to the invasion ports and the trip as well as the import period is very short. In the early stages of the game the officers and crew were, of course, enthused with the idea that they were part of a big undertaking. Now the bands have stopped playing and it has degenerated into monotonous back-breaking work. The result of this is that when the ships come in a large number of the boys miss ship, in order to have a few days on the beach. In addition, nerves are beginning to wear thin The next month or so I am afraid will be a very tough one, unless the W.S.A. adopts some policy of relieving the ships on the shuttle service or some policy of taking men off these ships for brief recreational spells ashore.

This same danger was scented a month earlier by another official, Mr. Philip D. Reed, American Minister for Economic Affairs in London, who visited the beaches after the great storm in June. Commenting on the work being done by merchant seamen in unloading their vessels when Army stevedores were not available Mr. Reed wrote that "having regard for the short, quick turnaround our men will become fatigued."

Sufficient Army stevedores became available shortly thereafter, and Headquarters Omaha Beach Command notified the WSA on July 7 that they required no further assistance in discharging supply ships except for winch-drivers. There still was a shortage of men trained for this job, and the WSA was informed that any extra civilian winch operators which it could obtain for the vehicle ships would be of great value. In the same letter the Army acknowledged the work done by merchant seamen earlier in the invasion as follows:

The splendid cooperation of the ships' crews in unloading vital cargo at a time when there were not sufficient army personnel to unload the vessels is to be highly commended as exemplary of the highest tradition of our Merchant Marine.

August may or may not have been as tough as the Coast Guard report indicated. Captain W. H. Lee, Director of the WSA's Division of Vessel Operations, passed the report on to higher officials with the terse notation, "Our people have not, as yet, commented on this situation." In all probability the problem dissipated itself as the number of shuttle service ships gradually decreased.

Before winding up the story of the shuttle service, it is necessary to turn back briefly and consider the stores program. Every convenient port in Britain and every berth within the ports were used for the massive invasion, but the stores movement was based

mainly in the Bristol Channel area. Many of the U.S. Army's supply depots were in this southwest corner of England, which was turned over almost in its entirety to the American forces. At one time more American military cargo was being unloaded in the Bristol Channel ports of Swansea, Barry, Cardiff, Newport and Avonmouth than in all other United Kingdom ports combined.

For the invasion this traffic went into reverse. Convoys formed in the broad but protected Bristol Channel, swung around Land's End and steamed up the English Channel until they were abreast of the Baie de la Seine. There they swerved abruptly to the right for the run to the beaches. It will be recalled that 625,000 deadweight tons of coasters were allocated for the stores movement. To this the WSA was required to add 60 oceangoing ships, 20 at the outset of the invasion and 40 more on July 18 (D plus 42.)

The WSA allocated the first 20 stores ships on May 17 and then was happy enough to forget about the program for the next 2 months, but the critical supply situation after the great gale in June brought a prod from the Army. Ten big stores ships were needed right away. The WSA made them available from tonnage already in the United Kingdom, and the vessels started loading in the Bristol Channel the first week in July.

On July 12 the Army requested 27 more stores ships, all to go on berth in the latter half of the month. This accounted for 57 stores ships, almost the entire planned allocation of 60 vessels. But this was the exact time when the overall shipping situation became critically tight, and the Army was compelled to modify its stores ship demands, being content with 40 instead of 60 vessels. As a result only 10 of the 27 stores ships requested by the Army on July 12 were actually taken. The others were turned back.

The WSA's London office confirmed the action a few days later in a message to the Deputy Administrator in Washington as follows:

We can expect a reduction in the number of stores ships to be allocated to the U.S. Army. As you know, the total was to be 60, of which we have already allocated 45, but the U.S. Army has this morning released back to us the five vessels which we allocated to them on July 13...

The Army was a little more guarded about the matter. Colonel D. S. McConnaughy, Deputy Chief of Transportation in the European Theater, recognizing no de jure reduction in the stores ship program, advised the WSA in London that the return of the vessels was "not to be construed as a release from the original bid." The vessels simply could not be handled at that time and he wished the bid kept open for calls at a future date.

Open or not, the Army did not exercise the call and was, in fact, discouraged from doing so by SHAEF. By September, the stores program was further reduced to 35 ships. At one time resurgent stores requirements threatened to send the allocation up to its original quota of 60 vessels but SHAEF, recognizing the need to conserve shipping, advocated a speedier turnaround for the 35 vessels already in service rather than an increase in their numbers to improve their cargo lift.

The stores program, therefore, was contained at 35 vessels and with the reduction of vehicle ships to 38 in September, 73 ships were left in the shuttle service as compared with a peak of 196 vehicle and stores ships in mid-July. Practically all of the 73 remained in the service for the balance of the year although hopeful but illusory signs of diminution arose from time to time.

The WSA did not believe the 73 vessels were being fully utilized and made repeated attempts to get some of them back. In October the Army agreed to release 25 of the stores ships but nothing came of it. The congestion of commodity loaders on the far shore had reached such proportions that a number of these vessels discharged their cargoes in British ports. Whereupon transshipment of much of these cargoes to France fell upon the shuttle service ships. Naturally the Army was loath to surrender any of its cross-Channel ships if cargoes were piling up for these vessels in the United Kingdom. A WSA official in London began to suspect as much early in October when he reported that "the decision to discharge more commodity loaders in the UK. will retard releases" of the shuttle service ships. The WSA was counting on the release of about 15 stores ships in October but prospects darkened so quickly, the London office was willing to admit by October 6, that it was not going to get any releases either in October or for some time to come.

The problem was again discussed in Paris at the end of the month. Mr. Thomas Monroe, WSA Director for the United Kingdom and the Continent, had gone there to confer with Generals Ross and Franklin of the Transportation Corps. He reported that the 25 stores ships were to be "immediately" released to the WSA and that the possibilities of releasing as many as 28 vehicle ships would be studied.

By the middle of November, 7 stores ships were en route to the United States, but the others were still jogging back and forth across the English Channel. As for the vehicle ships, word came that the Army was temporarily laying up 16 of them in the Clyde and in Belfast instead of releasing them. Cargoes apparently had fallen off in the Channel, and the ships were sent northward to get them out of the over-crowded anchorages in the southern zone.

The Deputy Administrator in Washington cabled instantly, urging Mr. Monroe and General Franklin to "exert all possible pressure" to have these vessels returned to the United States. Mr. Monroe besought General Ross to make a further study of his vehicle ship requirements so that the laid-up ships could be restored to active service "here or elsewhere."

General Ross obliged him and decided on "here." Within 3 days, the Army requested return of the vehicle ships to the southern zone so they could resume full shuttle service operations. A few days later General Ross notified Mr. Monroe there was no possibility of releasing any of the 38 vehicle ships, and later it was brought out that the Army might require an additional 10 vessels.

Mr. Monroe acquiesced but did not agree. On November 30 he wrote to the Deputy Administrator as follows:

These MT (motor transport) ships have never been fully employed, and I know of nothing that will cause me to believe that they will be fully utilized in the future. I am afraid, however, that I have about exhausted every means at my disposal to secure their release... To my mind this matter has now reached a point where it should be settled on higher levels....

The next day Mr. Monroe was able to submit proof of his convictions. The Army requested 3 vessels to carry pierced steel planking from Britain to the Continent. Mr. Monroe refused to allocate them, reminding the Army they still had 66 vessels in the shuttle service and might use 3 of these to lift the steel planking. The Army pointed out that all the stores vessels were fully loaded, and the vehicle ships were needed for a new

schedule which called for 6 sailings daily. But Mr. Monroe would not be swayed and refused to allocate the 3 vessels.

The WSA which had allocated thousands of ships for huge convoys to every theater of war, appears to have stooped to quibbling over the matter of 3 vessels for a run across the English Channel. But ever since Pearl Harbor the shortage of cargo ships had been an unrelenting threat. The fullest utilization of every ship had to be made if the WSA were to keep on top of all demand. and OVERLORD, gigantic and prolonged, had been costly in ships' time. It was now almost 6 months since D-day. The shuttle service was having a long and lusty life, and it was not until some weeks after Antwerp was opened to Allied shipping that any appreciable reduction in the number of shuttle service ships could be effected. In December Mr. Monroe and General Franklin recommended that the 66 vessels still in the shuttle run be reduced to 28 vessels: 16 to move vehicles and 12 to carry stores. SHAEF approved the reduction on December 16.

Above all a good port on the far shore was needed. If the Americans had a major port, undamaged and ready to berth oceangoing ships, supplies could pour ashore from vessels sailing directly from the United States. The necessity of a stop-over in Britain would diminish; its importance as a military base would decline. The armed might that cracked the Nazi fortress on D-day had surged hundreds of miles inland -- Paris was liberated on August 25; American tanks crossed the German frontier on September 3 -- but the battle of supply on the invasion beaches had not yet been entirely won. The shuttle service ships were coursing back and forth across the narrow Channel while hundreds of other supply ships were leaving the United States only to be stopped dead in the congested English Channel for want of a seaport on the Continent.

Chapter XI

SHIPS WITHOUT A PORT

A commodity loader arriving in British waters for the invasion usually proceeded first to a northern anchorage. When the need for its cargo arose, the vessel was ordered south to The Solent, directly opposite the Baie de la Seine, and from there it steamed across to the beaches.

Some vessels, loaded with special high priority cargo like certain types of ammunition, went directly to the far shore. Others, loaded with vehicles, discharged their cargo in a British port which was then transshipped to France in one of the vehicle ships operating in the English Channel. But the great bulk of the commodity loaders simply dropped anchor and awaited their turn.

They were coming across the Atlantic in an undiminishing stream. By August huge convoys were bringing them 20 to 30 at a time every few days, and before the month was over the Continental Movements and Shipping Committee learned that 119 oceangoing supply ships were piled up off the American beaches. It was recommended that commodity loaders be held in British waters to prevent further congestion off Normandy. This already had been done even though many commodity loaders were also stalled on the British side of the Channel, and the WSA was protesting that suitable and safe anchorages were becoming increasingly difficult to find. On the last day of August, a WSA official in London, reviewing the situation in British as well as Continental waters, reported that "the number of Commodity Loaders in these waters is threatening to increase to unmanageable proportions."

While the sailings of commodity loaders from the United States rapidly rose in volume, their movement from British anchorages to the beaches was no more than tentative at first. The shuttle service provided most of the supply ships for the initial invasion lunge. Only 13 commodity loaders crossed to Normandy in June, and 9 more followed early in July. Thereafter the movement became heavy. From 30 to 40 commodity loaders began leaving Britain for the beaches at 10-day intervals. By August 20 the far shore was getting clogged. More than 160 commodity loaders had crossed over, only 70 had returned. The movement from Britain was curtailed but to no avail. The start was made on a stubborn new pile-up of ships that was to last for months.

A prodigious amount of shipping had been thrown into the Normandy operation before we had the use of a single major seaport. Cherbourg had fallen to American forces on June 27, but it was no better than a ruin. Port facilities, piers and buildings had been all completely and thoroughly demolished. The outer and inner harbors were extensively mined, and two rows of mines blocked the entrance to the port. Dockside facilities were in a sad way. The two main installations, QUAI NORMANDIE and QUAI DE FRANCE had been dynamited with Prussian thoroughness. Wrecked and sunken vessels littered the docksides and the approach channels.

The U.S. Navy salvage officer estimated on July 1 that 30 days would be needed to clear the debris and make QUAI NORMANDIE operational. QUAI DE FRANCE was a complete wreck and would take an indefinite time to rebuild. Limited use of the port was expected by July 12 with some 3,200 tons of cargo coming ashore daily. By then the sheltered anchorages, which had room for 36 Liberty ships, might be sufficiently cleared of mines to admit 2 or 3 vessels. But extensive use of the docks was a long way off and unloading would have to be confined to amphibious trucks and landing craft. By dint of proper organization and extreme hard work, the port's capacity was expected to reach

10,000 tons a day around the first of August, and by then it was hoped 12 berths would be available for oceangoing ships.

Actually U.S. forces had the use of only five berths at the beginning of August. They still had them and no more when September rolled around. On August 11 the WSA had predicted with depressing accuracy that "it doesn't look as though berth discharges will be a substantial factor until September." The theme was repeated in another WSA report on the last day of the month, "Experience with Cherbourg indicates that other ports will not be a real asset until about a month after capture."

Ships scuttled alongside docks and in the approach channels by the Germans were a time-consuming obstruction. At Naples the same problem had confronted the Americans. Ships had been sunk alongside the docks to prevent their use for unloading. But the US. Army fooled the Germans by hastily constructing bridging across the sunken hulls and unloading anyway. The "Naples act" did not prove feasible in Cherbourg, and scuttled ships had to be blown up, cut up, or otherwise cleared away.

The WSA, although it was not responsible for unloading supply ships, nevertheless was interested in far shore conditions because they had a direct bearing on the availability of ships. It has been shown how the shipping needs of OVERLORD grew. The speed with which vessels were unloaded had much to do with keeping the shipping situation fluid.

Besides the lack of a good seaport, a number of other factors contributed to the shipping congestion on the far shore in August. One was the problem of "selective unloading." This was a fancy name for turning ships into floating warehouses. After

highly essential supplies were taken out of a ship, the rest of the cargo and the ship were left hanging on the anchor.

The WSA protested vigorously against this wasteful practice to both the Army Transportation Corps and the SHAEF. On August 17 the London office of the WSA was able to notify Washington that the Army had ordered discontinuance of selective unloading except when "urgent operational priority" requirements had to be met. The London office became hopeful of sending unloaded ships back to the United States in increasing numbers and several laggards were released in time to make September convoys.

Another delaying factor was the transition from shuttle service ships to commodity loaders. When the former vessels predominated on the far shore, discharge times were shorter because of the types of vessels involved and the character of the cargoes they carried. The speedy turnaround of vehicle ships has already been explained. Coasters and LST's also presented a relatively simple discharge problem. They could run in close to shore or even beach themselves at high tide. When the tide ran out trucks were driven alongside the beached vessels to haul away the cargoes.

However, as more and more commodity loaders appeared off the invasion coast during the heavy July-August movement, and as the shuttle service began to decline, a change to ships more difficult to handle took place. Cargoes also became more difficult and variegated. On August 11, for example, seven commodity loaders were sent to Cherbourg, each with two 65-ton Diesel locomotives lashed on deck. Getting heavy, awkward lifts such as this ashore plainly took longer than hoisting jeeps or tanks out of the holds of specially fitted vehicles ships or unloading a beached coaster.

There were other minor contributory causes of the shipping congestion off Normandy. Coal, grain, timber and other nonmilitary commodities had to be shipped to France. These items increased the cross-Channel traffic, took up shipping space, and placed an added strain on discharge facilities on the far shore. But the shipments could not be ignored. Liberated areas required such assistance, and non-military commodities also afforded some indirect aid to our fighting forces. Coal was needed for the Cherbourg power plant and for the railroad hauling supplies out of Cherbourg inland to the Army. Indeed, the controlling factor in the development of Cherbourg was the ability of the railroad to clear away the supplies discharged there from ships every day. For that very reason the Diesel locomotives mentioned above were shipped to Cherbourg.

This again brings home the value of an undamaged port. The WSA found that labor, small lighterage craft, berths and port equipment were needed most to quicken the flow of supplies from ship to shore. Put these all together and you have a port. The Americans were doing exactly this -- putting shattered Cherbourg together. Meanwhile Omaha and Utah beaches and the small ports that lay along the coast were relied on heavily to keep our forces supplied.

The artificial port off Omaha Beach was demolished by the great storm late in June. There was some thought of restoring it and on June 23 a number of additional block ships were requested immediately to strengthen the breakwater. Then it was decided to confine repairs to the British artificial port off Arromanches which had escaped with minimum damage, and ten WSA vessels were turned over to the British to strengthen their installation. Port components salvaged at Omaha also were sent to Arromanches. Thereafter big supply ships unloading off Omaha were exposed to the open sea.

A more awkward time for surrendering ships for scuttling purposes could not have been found. Invasion shipping demands were soaring, and the WSA had almost no cripples laid up in British repair yards at the time which might have served as block ships. Active tonnage, therefore, had to be sacrificed. Ten vessels scheduled to depart for the United States on June 24 had their sailings canceled and were sent instead to a permanent anchorage off Arromanches. They were all old vessels. Nine had been built during the World War I shipbuilding program of 1918-20, and the other dated back to 1913. But they were all still serviceable and could be ill-spared.

By August the burden placed upon the beaches and the small ports was staggering. The Army counted on unloading 120 commodity loaders that month at the rate of 36,500 tons a day, and another 175 ships in September at the rate of 41,000 tons a day. Only a herculean effort plus all the luck in the world could achieve this. A total of 175 Army supply ships had never been unloaded in the United Kingdom in 1 month with good port facilities. In Normandy we had bare beaches, a few fishing ports, and battered Cherbourg.

The Army target was reached during 2 days of "ideal weather," and the daily unloading average was around 30,000 tons for the first 15 days of August. This was described as "a period of excellent weather, coupled with good moonlight on the best nights." But the beaches became of doubtful use as the summer waned and weather deteriorated. On August 22, a bad day, only 9,445 tons were discharged in the entire American sector including Cherbourg. A WSA official wrote forebodingly, "If an August storm can do that, wait until the equinoctial storms of September."

The August record fell far below expectations, only 76 commodity loaders were discharged on the far shore that month. Consequently the September target of 175

ships was scaled down. The WSA, although it desired a rapid discharge of ships as ardently as the Army, did not believe it would get back more than 135 commodity loaders that month empty and ready for the return to the United States.

SHAEF and the WSA in London were agreed early in September that the next 5 or 6 weeks would be the critical period. Besides approximately 40,000 tons of Army supplies and coal scheduled for daily discharge in France, 9 Army divisions were to start landing; and their equipment added several thousand tons to the daily unloading burden. This formidable schedule did not take into account the vehicle movement as well as the berths and facilities that would be taken up by troopships. It looked like too big a load for the beaches and ports to handle. Moreover, a clearance bottleneck was developing in Cherbourg. The port had been partially restored and had an estimated capacity of 15,000 tons a day, almost exactly what had been predicted for it 2 months before by the U.S. Navy salvage officer and Army engineers. But now supplies were piling up on the docks. Inland transport was unable to clear cargoes away from the waterfront as rapidly as ships unloaded them, and the port was falling short of its restored capabilities.

SHAEF estimated that the entire far shore capacity would not exceed 35,000 tons a day in September. WSA officials were inclined to agree although with a break from the weather they thought the American beaches and ports might do a little better.

One WSA official in London was able to visualize an average daily discharge of 43,000 tons in September: 15,00 tons through Cherbourg, 10,000 tons across Omaha and Utah beaches, 6,000 tons through small ports in Normandy, and the rest through small ports in Brittany such as Morlaix, Granville, St. Malo and others. But September's weather was "atrocious," and 15 days later this same official reported that "Everything went wrong with the Far Shore discharge position in September." The beaches and

small ports in Normandy were only "50 percent effective" because of the weather, although their full capacity had been counted upon at least until September 15. Secondly, the bottleneck in Cherbourg had held down that port's potentialities and lastly, the Brittany area did not become available until it was too far behind the scene of battle to be of much use. As a result, September unloadings were averaging only 25,000 tons a day, much less than the 40,000 tons or better which were required. About 10,000 tons were brought over by shuttle service ships from Britain, and the rest was delivered by commodity loaders. This was the equivalent of unloading 3 commodity loaders a day and this average, perceived by the WSA on September 19, held good for the rest of the month. Only 96 of these vessels were discharged on the far shore in September.

Although less tonnage was brought ashore than in August, oddly enough, the WSA got back more ships. This was due to selective unloading "in reverse." Ships that had been lying off the invasion coast for weeks with low priority cargo such as steel rails or barbed wire in their holds were finally scraped out and sent home. The September gain in ships, however, was no more than the recovery of vessels which under easier circumstances would have been returned in August.

The too-ambitious program of unloading up to 300 commodity loaders on the far shore in August and September had resulted in the actual discharge of 172 vessels. In the face of such a situation some check had to be placed on unrestrained ship arrivals. For 3 weeks in August-September the movement of commodity loads from Britain to the beaches was reduced to less than one a day. But this solved nothing and did not speed turnarounds. A ship was idle whether it lay off Normandy or Scotland. The real question was, could the far shore funnel commodity loaders out of British anchorages as rapidly as convoys from the United States poured them in? It could not. The time had come to

reverse the trend and take some ships out of OVERLORD instead of constantly adding to it.

A thumping 264 WSA vessels sailed from America for the European theater in August. About 35 carried British imports and one had U.S. Navy cargo aboard, but all the others -- 228 ships -- were loaded with U.S. Army supplies. The achievement of such heavy sailings was not far from remarkable. We recall the Supreme Commander was warned in July that the 181 Army sailings scheduled for August might have to be reduced because of the large number of ships that were tied up in the shuttle service. But demands for supplies on the far shore were so urgent that the Army was compelled to request 80 more August sailings. Only 75 of the vessels were to discharge in British ports; the rest -- a solid 186 ships -- were to deliver their cargoes to Normandy.

The Deputy Administrator of WSA declared that the swollen August demand could be met only by stripping all other programs, and he preferred to leave that decision to mightier authorities. A compromise was reached, and 228 vessels were made available to the Army in August, about midway between the high and low requirements. The heavy movement continued into the early part of September. Between August 7 and September 7, a total of 177 commodity loaders left the United States in convoys. The influx so dammed up the English Channel with unloaded ships on top of what was already there that the Army at long last acceded to the importunities of the WSA and reduced the deluge of ship arrivals.

Early in September, Army Headquarters in Washington notified the Supreme Commander that the next 6 convoys would sail with 10 less commodity loaders in each. The WSA urged further cuts in order to work off the top 100 vessels of the excess in the area, and on October 1 the Army cut 40 commodity loaders out of 4 more convoys.

Because of heavy departures from the United States through the early part of September, arrivals in Britain that month were the greatest since the movement began. The first 8 commodity loaders arrived in May, 37 in June, 94 in July, 134 in August and 166 in September: a total of 439 in 5 months. In September a new type of loader appeared, the "organizational" vessel. This was a ship loaded with all the items needed to equip a unit of troops. Organizational vessels began arriving in September at the rate of about 25 a month.

The effect of the reductions in sailings, therefore, was not felt until October when 112 commodity loaders and organizational vessels arrived in the United Kingdom. This was a comfortable but not impressive drop from the September peak. Unfortunately, the reductions were not made soon enough and large enough to diminish appreciably the pile-up of ships. September began with 194 commodity loaders in the theater and ended with 236 on hand. On the basis of the then scheduled arrivals and departures, the WSA foresaw a mass of approximately 200 unloaded vessels coagulated in British and Continental waters for another 2 or 3 months.

On the other hand, the reductions in sailings were large enough to create incipient shortages of certain critically needed materials. Lieutenant General John C. H. Lee, Deputy Commander of the European Theater of Operations, wrote to the WSA in September that supplies of rations, clothing, vehicles and certain types of ammunition were "seriously low." He held that a large number of vessels should be maintained in British anchorages as a precaution against emergency requirements, and concluded "It is my view that the reduction already effected in the number of ships for the theater are the ultimate possible, if the mobile combat forces are to be supported adequately."

In effect, General Lee was saying that a pile-up of unloaded ships was necessary. This was heresy to the shipping people. Throughout the entire war the WSA wrestled with the problem of speeding turnarounds; "keep 'em moving" was the byword. An idle ship was a wasted ship. Voyage time had to be kept at a minimum. Trying to forestall all delays was no small task when the WSA had hundreds of ships in the vast reaches of the Pacific, the Indian Ocean, and the Middle East, as well as those clustered in the comparatively adjacent European and Mediterranean theaters.

The problem also had an adverse effect on crews. Merchant seamen became bored and restless aboard ships that lay idle for extended periods. Late in September when the WSA called for a reduction in commodity loader sailings by as much as 20 ships per convoy, it cited the "morale of idle crews" as well as the loss of ships' time among the serious problems brought about by the piling up of ships in the United Kingdom. The seamen had little or no opportunity for liberty in Scottish anchorages, in the southern zone of England, or on the Continent. The London office of the WSA noted that the seamen were becoming "impatient," but the situation was alleviated in September with the opening of a seamen's service center on the Isle of Wight. It was arranged to have WSA vessels concentrated in one large anchorage in the Solent, the U.S. Navy Fleet Post Office opened a branch there for handling merchant seamen's mail, and the Army based sailing orders on a 24 hour period instead of from 1 to 4 hours. These provisions enabled the crews to go on shore leave, and at times as many as 75 WSA vessels were anchored in the Solent anchorage.

The arrangement served a useful purpose as far as the crews were concerned, but it did not speed turnarounds. It was second nature for the WSA to resist the piling up of its ships anywhere, but this time General Lee's dictum that it was a necessity was resoundingly agreed with by Mr. Monroe, the WSA's Director of the United Kingdom and

the Continent. A few weeks after General Lee made his appraisal of the situation, Mr. Monroe was called upon by the WSA in Washington to explain why cargo ships could not be routed directly to the invasion coast without prior delays at United Kingdom anchorages. Mr. Monroe's reply was emphatic.

The Army must have a floating reserve of stores to draw upon as tactical requirements dictate. Unfortunately, there are no continental anchorages where this reserve may be held so that the vessels must of necessity go initially to U.K. anchorages, and as I view the matter, we cannot take exception to this....

Shortly before this, a member of Mr. Monroe's staff had already written to Washington that "in an operation of this sort, we need large numbers of commodity loaders as a reserve in these waters."

The mass of shipping in the English Channel may have looked like a pile-up from Washington and a "reserve" when seen from London, but the necessity of it cannot be gainsaid. In the final analysis, the Battle of Europe was an amphibious operation as long as the Americans did not control a deep water port. The front lines were still being supplied to a considerable extent directly from ships even though our mobile combat forces had fought their way across France and into Germany. If we had had a big, undamaged port on the far shore, vessels could have unloaded promptly and steamed back for another cargo. Then the front lines could have been supplied directly from supply depots ashore, and commodity loaders could have been turned around in 15 days instead of 50. But such was not the case and supply ships piled up. This theory and the hard facts behind it did not dissuade the WSA, however, from trying to see that the reserve of ships did not become unnecessarily large.

As one means of relieving the Channel congestion, the WSA sought to have commodity loaders discharge cargoes in Britain rather than France. The British were not overly enthusiastic. The staggering load carried by United Kingdom ports for months was just beginning to lighten, and they did not wish to see it thrust back as a rebound from the Normandy pile-up. The proposal also touched upon the sensitive question of coasters. A large amount of coastal tonnage was kept in the shuttle service far longer than planned. Naturally, if more military cargoes were delivered in Britain for transshipment to France, there would be more work for the coasters which the British were anxious to restore to normal operations in their own waters. For precisely the same reasons the WSA had been unable to withdraw its stores ships from the shuttle service as early as planned.

The WSA began seeking commodity loader berths in British ports as early as July, but the British Ministry of War Transport was willing to make them available only to the extent that BOLERO vessels were diverted from discharge in the United Kingdom to the Continent. The WSA recognized that British ports could not handle an undue number of extra vessels and approached the matter as an expedient, not as a solution of the situation on the far shore. New difficulties, brought on by bad weather and shorter days, were foreseen anyway, if Britain were not substantially relieved of the burden of serving as a military base by winter time. The British relented somewhat and 26 commodity loaders were discharged in the United Kingdom between July and September while 13 BOLEROS were diverted to Normandy. On the whole, the shipping congestion off the invasion coast was not permitted to react against the United Kingdom's improving port position which gradually became reminiscent of the "easy days of June 1943." But if things were looking up on the British side of the Channel, on the far shore they were getting worse.

Chapter XII

ANTWERP

October was the month when everything deteriorated. The weather boded no good for the beaches, and the captured ports decreased in value as the war moved inland. Meanwhile, German handiwork with explosives was hindering the supply movement as much as ever. The Germans had been driven back from the much-vaunted Atlantic Wall to their own borders, but the scorched ports they left behind kept our supply ships out of the harbors of France as effectively as enemy guns. While American armor and infantry were flinging the Germans back across the Rhine, supply troops on the shores of Normandy where the Battle of Europe had begun, were still struggling with storm-swept beaches, and with ports either too shattered, too small, or too shallow.

Two new seaports had been captured, Brest and LeHavre, but like Cherbourg, both were in a shambles. Brest, far out on the Breton peninsula was a ruin and almost out of reach. LeHavre, flanking the Baie de la Seine on the east, was much nearer the battlefield, but the port abounded with mines.

The WSA hoped that the far shore's discharge facilities would accomplish in October what they were unable to do the month before. An estimate of 37,000 tons of cargo unloaded daily was made divided as follows:

Cherbourg	12,000 tons
Omaha and Utah	10,000 tons
LeHavre	5,000 tons
Brest	5,000 tons
"Mulberry" at Arromanches	<u>5,000 tons</u>
	37,000 tons

Two thirds of the supplies were to be delivered by commodity loaders from the United States, and the rest shuttled over from Britain. The target reflected an optimistic view, and to be on the safe side, the WSA set a minimum-maximum range of 25,000 to 40,000 tons daily.

Getting the supplies ashore, of course, was an Army responsibility. The WSA was thinking mostly in terms of unloaded, empty ships that could be sent back to the United States. At least 135 such vessels were desired in October. Arrivals that month would drop to 112, and if 135 ships were discharged a modest constriction of the pile-up could be made. The August and September experience, however, made it plain that no more than 95 or 100 ships could feasibly be discharged in Normandy, so in order to hit the 135-ship target, the WSA turned once more to the United Kingdom. British ports had had a fairly long breathing spell and were considered to be in a good position to handle 40 to 50 far shore ships.

The first batch of organizational ships which arrived in September was routed to Utah Beach and to Cherbourg, but because of heavy lifts and other reasons, the vessels were unable to discharge cargo satisfactorily. It was decided to berth October's organizational ships in Bristol Channel ports and to transship their cargoes to France.

Discharge of eighteen commodity loaders in "flights" of six in the Bristol Channel also was projected for October. The idea took such hold that there was talk of unloading other commodity loaders in Southampton and transshipping the cargoes to Calais. Briefly, these were the arrangements for October. After October 31, it was said, "everything will depend on Antwerp."

The rough, autumnal Atlantic rose up to rewrite the story. Omaha and Utah beaches, and the artificial port at Arromanches, took punishment from storms that led to their abandonment. LeHavre was of little use until it was cleared of mines. Brest was not used at all. Only Cherbourg held up. This port, in our hands since June, had been considerably restored, and cleared an average of 11,539 tons of cargo daily, just under the WSA 12,000-ton estimate. The others fell far below expectations. Some use was made of Morlaix, a smaller port east of Brest, and of Rouen, up the Seine River from LeHavre. A few hundred tons of military supplies also trickled daily through each of six small fishing ports. In all, the entire American-controlled area cleared an average of 26,273 tons of cargo a day during October, very close to the bottom of the WSA's minimum-maximum estimate. The performance in terms of ships was no less grim. Only 67 commodity loaders were discharged on the far shore that month. The record would have been even worse if at least 10 vessels had not been released with low priority cargo still in their holds. This time they were not even held to be "scraped out" as were some of the September ships, but were sent home with two or three thousand tons of landing mates, steel rails, barbed wire, or surplus engineer equipment stowed below.

Plans fizzled on the other side of the Channel also. The organizational vessels arrived too late -- only one by October 10 -- for any number of them to be discharged by the end of the month. For some reason the unloading of commodity loaders in the Bristol Channel was given up after the first flight of six went through. When the month was up,

a bare 14 far shore ships had been discharged in British ports. These, with the 67 that came back from Normandy, gave the WSA 81 vessels, a poor fraction of the 135 it had hoped to return to the United States in October.

While these dismal events were taking place, the WSA made an inspection of Antwerp. The port had fallen into Allied hands on September 6 and it was found "virtually intact." It had ample berthing space, modern dock facilities, and excellent communications with the interior. Rail, road, and canal connect it with most parts of Europe, particularly Germany. Thus it could speedily unload our ships, and also afforded speedy means of moving supplies from dockside to the troops inland. Moreover, it was much nearer to the front than any beach or port in Normandy and Brittany, being "on the right side of the Paris bottleneck."

Unfortunately, the Allies were subjected to the aggravation of holding Antwerp and all its magnificent facilities for almost 3 months before they could be used. A more trying experience can not be imagined; being denied the use of Antwerp, and at the same time being thwarted by uncontrollable unloading conditions at the beaches and ports. But it happened for good reason. Antwerp lies some distance up the narrow, winding Scheldt River. The mouth of the estuary fans out into a broad bay covered with islands. A strong, stubborn force of Germans held these islands for the express purpose of barring our approach to Antwerp from the sea. They were dislodged only after a long and bitter fight, and until we controlled the islands, Antwerp was an inland city, not a seaport.

The battle for the islands swayed, and speculation as to the time when Antwerp would begin receiving American supply ships ranged from November 1 to December 15. On his inspection trip of October 18, Mr. Monroe, WSA Director for the United Kingdom and the Continent, found the opening of Antwerp a question still "obscure." The port

would have been welcome indeed on November 1. Utah Beach and several of the small ports had already been buffeted out of the war by foul weather. Omaha Beach was abandoned on November 15. We were relying chiefly on Cherbourg, LeHavre, Rouen and Morlaix. All were improving, although slowly. On the last day of October, LeHavre and Rouen together cleared 9,920 tons of cargo. But the gains were barely making up what was lost when the overworked and storm-battered beaches were withdrawn.

The WSA did not believe that Cherbourg, LeHavre, Rouen and Morlaix could discharge more than 90 commodity loaders in November. This was not a prediction, but an opinion expressed when the month was half over. The opening of Antwerp was expected in 10 or 12 days, and plans for its use were taking shape. It was proposed to rush 91 vessels loaded with Army supplies into the port as soon as possible. But the WSA had deeper and more far-reaching plans to rid itself of the shipping pile-up. They were aimed at the basic principle by which the U.S. Army had been supplying its forces since D-day. On November 18 Mr. Monroe proposed to General Franklin, of the Transportation Corps, the following points:

That as soon as Antwerp is working well the principle of commodity loaded vessels should be abandoned and the vessels again loaded in accordance with normal practice.

That when Antwerp is open and with the continued development of Cherbourg, LeHavre and Rouen, it will no longer be necessary to hold a large reserve of ships at anchorages in the U.K. for calling forward to the Continent, and with a pipe-line of only 15 days from the U.S. and convoys at approximately 5-day intervals, no difficulty should be encountered in keeping the ports fully occupied through direct diversion to them from arriving convoys.

For a solution, Mr. Monroe had gone to the basic cause. If you wish to end a pile-up of commodity loaders, abolish commodity loading. A vast number of cargo ships had had to be loaded with a certain commodity or commodities selected for each, and then held as a reserve (or pile-up) at anchorages in the U.K. because we did not have an adequate port on the Continent. But now we had a port, within reach, and supplies could be piled up on dry land instead of being kept afloat. Antwerp was at our finger tips. The greatest amphibious operation in military history was drawing to a close. It was time to resume normal practices. Mr. Monroe advised the WSA in Washington that he believed General Franklin shared his views, and that he would advise the War Department accordingly.

Antwerp was opened on November 28. The honor of being the first American cargo ship to enter the port fell to the Liberty ship SS JAMES B. WEAVER. She led the first incoming convoy, arriving in Antwerp at about 2 p.m. on November 28, 1944.

The day after Antwerp opened, there were 212 commodity loaders in the European theater; 67 were discharging on the far shore, another 67 were awaiting for convoys to the United States, but 72 fully loaded vessels were tied up at anchorages in the United Kingdom. Antwerp began draining off the "reserve" in short order. Within 24 hours only 19 vessels were in British anchorages, a few days later it was down to 14, then 4, and on December 14 the WSA in London informed Washington that the number of piled up ships in Britain was down to "zero."

That was the end of the log jam. Huge convoys might arrive from the United States and spend a few days in The Solent before they were routed to the Continent, but the long waiting spells were over. Ships were being turned around in Antwerp in 10 or

11 days, and 30 were being unloaded simultaneously on December 15. Vessels that had been in the area 3 or 4 months were homeward bound before the end of the year. The Germans fired a Parathion shot at Antwerp, sinking 2 of the first 20 vessels as they came out of the Scheldt. The Germans also tried to make up for their neglect in not having blown Antwerp sky high like Brest or Cherbourg, by showering the port with V-bombs. These missiles made it not too comfortable, and on December 9 the WSA office was demolished. Luckily there were no casualties.

The renewed activity that coursed through our cargo ships after the Scheldt was opened to them, touched off a long-delayed phase of the supply movement. Heavy sailings to the European Theater, curtailed for 3 months, were resumed. The WSA had the ships at last, and the "far shore" as such had ceased to exist. The entire Continent was slipping from the Nazis' grasp, and its western brink had become the end of a convoy pipe-line only 15 days from the United States.

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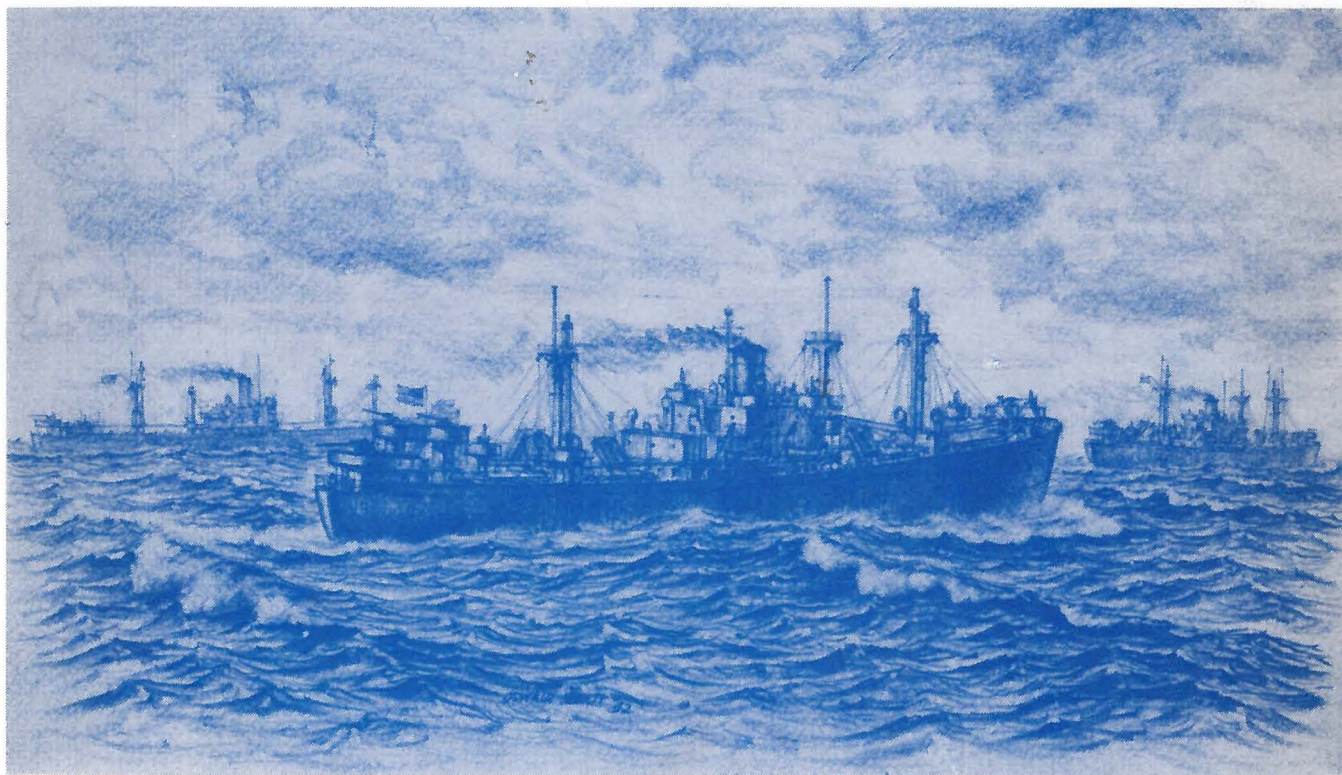
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